DOCUMENT RESUME

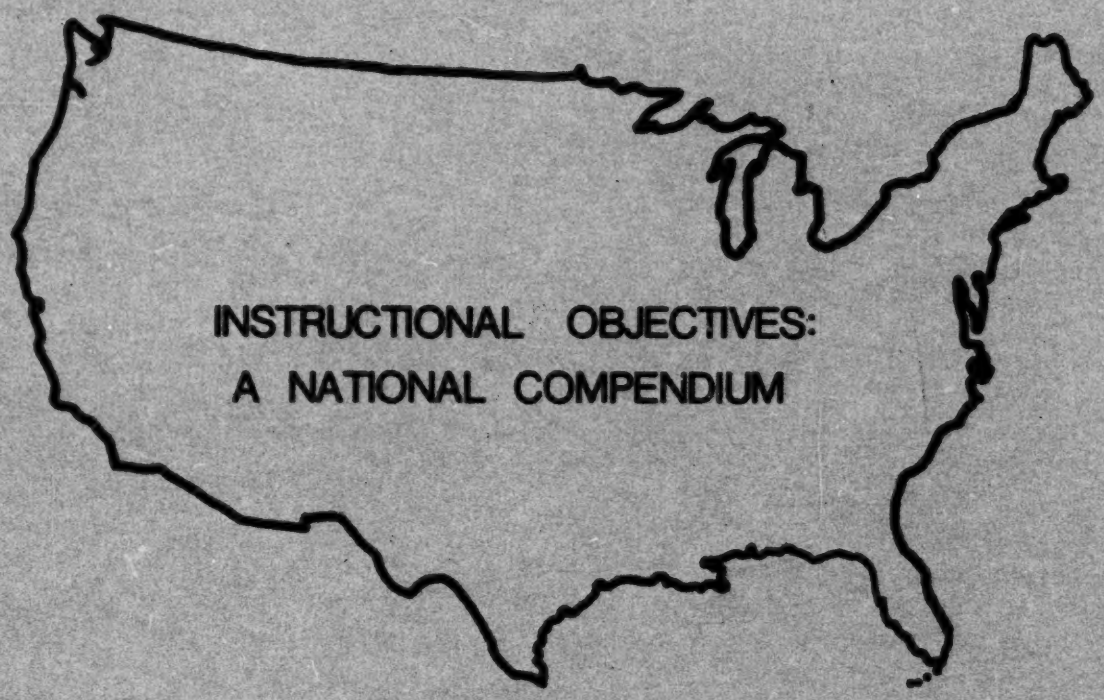
ED 062 743 EC 041 993

AUTHOR	Kuhn, G. Michael; Gay, Lorraine R.
TITLE	Instructional Objectives: A National Compendium.
INSTITUTION	State Univ. System of Florida, Tallahassee.
SPONS AGENCY	Florida State Dept. of Education, Tallahassee. Div of Elementary and Secondary Education.
PUB DATE	May 72
NOTE	144p.
EDRS PRICE	MF-$0.65 HC-$6.58
DESCRIPTORS	*Annotated Bibliographies; Behavioral Objectives; Bibliographies; *Course Objectives; Curriculum; *Educational Objectives

ABSTRACT

The compendium is an annotated bibliography of materials containing instructional objectives and of objectives-based materials collected from institutions, school systems, state departments of education, and commercial producers of educational materials. Organization of listings is by topic, grade range, and alphabetical order. A listing of macro-collections, compilations which contain objectives in a number of different areas and many objectives per area, is followed by a listing of micro-collections, which contain objectives in at least three different areas. Other sections list materials containing educational objectives for specific curriculum areas: early childhood, creative arts, language, mathematics, reading, science, social studies, and vocational-technical education. Final sections list sources (bibliographies and reports) containing objectives or references concerning objectives, materials dealing with development and use of objectives, and teacher training materials which consist of or contain instructional objectives. Information given for each entry includes title, grade range, publisher, price, brief description of material, and a list of topics covered in the material. (KW)

ED 062743



INSTRUCTIONAL OBJECTIVES: A NATIONAL COMPENDIUM

EC 041 993E

DIVISION OF ELEMENTARY & SECONDARY EDUCATION
DEPARTMENT OF EDUCATION • TALLAHASSEE / FLORIDA • FLOYD T. CHRISTIAN COMMISSIONER

INSTRUCTIONAL OBJECTIVES:
A NATIONAL COMPENDIUM

PREPARED BY

G. MICHAEL KUHN AND LORRAINE R. GAY
STATE UNIVERSITY SYSTEM OF FLORIDA
DIVISION OF ACADEMIC AFFAIRS
TALLAHASSEE, FLORIDA

STATE OF FLORIDA
Department of Education
Floyd T. Christian, Commissioner
Tallahassee, Florida

May, 1972

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

This document was prepared under the Florida Educational Research and Development Program. The Research and Development Program is administered by the Division of Elementary and Secondary Education, Florida Department of Education, Tallahassee, Florida.

FOREWORD

The utilization of instructional objectives is rapidly becoming as common an educational practice as taking attendance. The accountability movement has amplified the need for precise statements of expected student behaviors and the development of techniques for assessing the presence or absence of these behaviors. In response to these needs, educators at all levels are increasingly basing their instruction on pre-specified instructional objectives. Commercial producers have responded to the resulting educational market demands by developing objectives-based instructional materials. The combined efforts of education and industry have yielded a plethora of carefully stated objectives in a wide variety of instructional areas.

A major thrust in Florida is increased accountability for educational programs. The new state strategy includes the clarifying of goals and objectives, and the analysis and evaluation of educational programs. Florida's Educational Research and Development Program is currently funding projects to develop assessment instruments in a number of curriculum areas. The products from these projects will be used in state assessment, independent program assessment, and classroom instruction. The Board of Governors for the Educational Research and Development Program has recommended, however, that pupil assessment instruments be developed only when other suitable instruments and techniques cannot be obtained more economically.

Primarily in response to Florida's need, but also in recognition that similar situations exist in other states, the Florida Board of Regents, under the auspices of the Florida Educational Research and Development Program, conducted a nationwide survey. Primarily through the use of questionnaires and letters, sent to a wide variety of persons and institutions, information was collected on a myriad of instructional objectives and objectives-based materials.

This document presents the findings of the survey as of May, 1972. It is anticipated that the summary will serve as a reference source for educators contemplating development or implementation of objectives-based education. It is also hoped that other developers, who were not identified for contact, will be prompted to contribute information on their endeavors so that a more comprehensive document may be compiled at a later date.

The authors wish to express sincere appreciation to the Florida Department of Education personnel who provided considerable assistance in the development of this document, especially Mr. John Healy - Coordinator for Assessment, Educational Research and Development Program, Mr. Philip Doughty - Acting Coordinator for Independent Program Assessment, and Dr. Fred W. Vorce - Music Consultant. Appreciation is also due Thelma Varner for her invaluable assistance in the production of the Compendium. Especial gratitude is extended to all contributors who took the time and energy to share their efforts.

TABLE OF CONTENTS

	Page
FOREWORD	i
INTRODUCTION	iii
MACRO-COLLECTIONS	3
MICRO-COLLECTIONS	33
EARLY CHILDHOOD	49
THE CREATIVE ARTS	53
Art	53
Music	53
LANGUAGE	61
English	61
French	65
MATHEMATICS	67
READING	85
SCIENCE	101
SOCIAL STUDIES	111
VOCATIONAL-TECHNICAL EDUCATION	113
SOURCES OF SOURCES	123
UTILIZATION OF OBJECTIVES	127
TEACHER EDUCATION	131
Counseling	131
Curriculum Areas	131
Educational Psychology	131
Elementary Education	133
Evaluation and Research	133
Generic Skills	135
Interning	145
Media	147
Reading	147
Secondary Education	147
Vocational Education	149

INTRODUCTION

The critical step in conducting this survey was the identification of sources of instructional objectives. Within the state of Florida the task was somewhat simplified in that key sources were readily identifiable; the task was somewhat more difficult outside the State. It was determined that the most logical initial contacts would be with the state directors of curriculum, instruction, and evaluation. It was correctly assumed that they would supply information on at least the most outstanding efforts in their states. The next major step was the identification of public school systems, universities, regional educational research and development laboratories, and national organizations either known to be involved in the development of instructional objectives, known to be engaged in related activities, or potentially involved in such endeavors because of their size or progressive philosophy. Lastly, an intensive effort was made to identify and contact all major commercial producers of educational materials.

The response to our request for information and materials was gratifyingly high. The response rates for the categories of institutions contacted ranged from 62% to 94%; nearly every state department of education sent information on state efforts. Several comprehensive collections of objectives were identified and obtained, as well as a large number of subject-matter-specific compilations. In addition, documents were received which either dealt with the utilization of objectives or described sources of information on objectives. Lastly, teacher education materials were obtained, most of which contained objectives embedded in a modular format.

The Compendium is organized by topic, grade range and alphabetical order. Collections have been divided into MACRO-COLLECTIONS and MICRO-COLLECTIONS. MACRO-COLLECTIONS contains descriptions of compilations (arranged alphabetically) which contain objectives in a number of different areas and which contain many objectives per area. MICRO-COLLECTIONS contains descriptions of collections which contain objectives in at least three different areas. These are arranged alphabetically within intended grade range. Descriptions of objectives in the curriculum areas, e.g. MATHEMATICS, are also arranged alphabetically within grade range, with the exception of VOCATIONAL-TECHNICAL EDUCATION; descriptions in this category are ordered alphabetically by vocational area. SOURCES OF SOURCES contains descriptions of bibliographies and reports which contain either objectives or references concerning objectives; these are arranged alphabetically by title. UTILIZATION OF OBJECTIVES contains descriptions of materials which deal with the development and utilization of instructional objectives; these are also arranged alphabetically by title. Finally, the TEACHER EDUCATION section contains annotations of available teacher training materials which consist of, or contain, instructional objectives. These are arranged alphabetically, by topic, and by title within topic. SOURCES OF SOURCES, UTILIZATION OF OBJECTIVES, and TEACHER EDUCATION were not originally intended to be sections in the Compendium. However the number

of unsolicited entries received warranted their inclusion. Consequently, in contrast to other sections of the Compendium, these three sections are in no way to be considered comprehensive.

Descriptions of materials are presented in the words of the developer whenever possible. Annotations include the title of the materials, the intended grade range (K = kindergarten, P = primary, I = intermediate, JH = junior high, SH = senior high, A = adult, or, post-secondary), name and location of the publisher, and the price of the materials when known. Since it would be impossible to relate all important aspects of each reported effort, this summary presents a brief description of the materials and a listing of the topics included. Using this approach, interested persons may examine the annotations in the area or areas of their choice and identify sources of objectives relevant to their needs.

To enhance the usability of this document, the name and address of the contact person for each entry in the Compendium are presented on the page opposite the page on which the entry originates. Although many more persons were contacted, they either did not respond, did not have materials to contribute, had materials which are not yet available, or responded after the Compendium had been compiled. Late arrivals will be integrated into a revised version at a later date.

Additional copies of this document are available upon request.

INSTRUCTIONAL OBJECTIVES:
A NATIONAL COMPENDIUM

SOURCE REFERENCE

1. Edina Public Schools
   4660 West 77th Street
   Edina, Minnesota 55435

MACRO-COLLECTIONS

1. Curriculum Objectives and Materials (K-SH) - Edina Public Schools, Edina, Minnesota

Description: A series of documents (guides, units, topic outlines, course outlines, scope and sequence, objectives, learning packets, and teaching packets) developed in a wide variety of curriculum areas. Books of objectives also include sample items, test items, answer keys, and resources keyed to specific objectives. Learning packets contain terminal objectives and specific objectives.

Topics Included:

Elementary

Art (I)	$ 5.00
*Kindergarten Performance Objectives (K)	5.50
Literature	3.00
*Mathematics Performance Objectives (K-I)	35.00
Music (I)	4.00
Physical Education (P)	4.00
Physical Education (Scope & Sequence)	2.00
*Reading Performance Objectives (P)	15.00
*Reading Performance Objectives (I)	21.00
Science Units (I)	
Forces which Govern Universal Bodies	3.00
Chemistry	2.00

Secondary

Language Arts

Composition-Outline (JH)	3.00
Composition at the Typewriter (JH)	3.00
Creative Dramatics (JH)	3.00
Creative Writing (JH)	1.00
*Exploring in Multi-Dimension (Learning Packet)	1.00
Expository Writing (JH)	1.00
History of Language (JH)	3.00
Humor - Teaching Packet (JH)	3.00
Introduction to Language-Unit (JH)	3.00
Introduction to Poetry-Unit (JH)	3.00
Literature-Outline (JH)	1.00
Man Future-Unit (JH)	2.00
Modern Grammar-Unit (JH)	1.00
*Nouns-Learning Packet	3.00
Language Arts Semester Outline (SH)	10.00
Humanities (SH)	1.00

*Definitely includes objectives (materials not so marked may or may not contain specific objectives).

Foreign Languages	
French I & II	6.00
German I & II	6.00
Latin III	3.00
Social Studies	
*April Morning - Learning Packet (JH)	3.00
*The Light in the Forest - Teaching Packet (JH)	3.00
Conflict in Culture (JH)	3.00
The Colonial Period (JH)	3.00
The Constitution (JH)	3.00
The American Revolution (JH)	3.00
Minorities (JH)	3.00
American Government (JH)	3.00
Industrialization: Movement Toward a Mass Society (SH)	1.00
Political-Diplomatic History	1.00
United States Diplomacy: From Isolation to Involvement (SH)	1.00
United States History Unit: Protest & Reform in America (SH)	1.00
World History Unit: Latin America (SH)	1.00
World History Unit: Sub Sahara with Supplement (SH)	2.00
*Asian Studies (SH)	3.00
Mathematics	
Consumer Mathematics (SH)	1.00
Computer Programming (SH)	5.00
Introductory Algebra I & II (JH-SH)	4.00
*Mathematics Performance Objectives & Learning Activity Units (SH)	15.00
Modern Geometry (SH)	3.00
Refresher Mathematics	1.00
Home Economics	
Clothing Construction Sequence (JH)	1.00
Foods & Nutrition (JH)	1.00
Foods & Nutrition (SH)	1.00
General Clothing & Related Units (SH)	2.00
Intermediate Clothing (SH)	1.50
Science	
Junior High Science (JH)	4.00
Physics Manual (SH)	3.00
Reading	
Developmental Reading (JH)	3.00
*Elements of Verbal Development - Objectives-Based Units (JH-SH)	3.00

SOURCE REFERENCE

2. Institute for Educational Research
1400 West Maple Avenue
Downers Grove, Illinois 60515

Other

Bay's Physical Education	4.00
Introductory Unit for Multi-Disciplinary Team Teaching (JH)	1.00
Modern Art	1.00
Music Appreciation (JH)	1.00
Business Systems	1.00
Environment Study-Ecology-Based Science Outline	2.00
Man's Future (Science Fiction) - Language Arts (JH)	2.00
Critical Thinking - A Teaching Packet - Language Arts (JH)	3.00

2. Evaluation for Individualized Instruction (K-SH) - Institute for Educational Research, Downers Grove, Illinois ($110.00/complete set)

Description: An objective-item bank covering sixteen sectors of four subject areas in each of four grade ranges. Nearly 5,000 behavioral objectives and over 27,000 test items are included. The bank contains cognitive and affective objectives and items for Language Arts, Mathematics, Social Studies and Science. The package also includes an "Operational Guide for Teacher Workshops" (on behavioral objectives and item writing) and "A Report on the Evaluation Workshop in the Affective Domain" both of which are objectives-based.

Topics Included:

LANGUAGE ARTS

Primary
- Grammar & Usage
- Phonics
- Mechanics
- Alphabet
- Reference Sources
- Vocabulary
- Reading Skills
- Critical Thinking
- Creative Writing Through Literature

Intermediate
- Communications
- Critical Thinking
- Etiquette
- Grammar & Usage
- Literature
- Word Study

Junior High
- Communications
- Critical Thinking
- Etiquette
- Grammar
- History of Language
- How to Study Literature
- Mechanics
- Use of References
- Word Study

Senior High
- Literary Periods
- Literary Techniques & Devices
- Literary Works & Authors
- Critical Thinking
- Rhetoric
- Reference
- Grammar
- Mechanics
- Letters

MATHEMATICS

Primary

- Numbers & Numeration
  - Counting
  - Place Holders & Value
  - Order
  - Comparison
  - Fewest, Most
  - Pairs
  - Roman
  - Properties
  - Fractions
  - Mathematical Symbols
- Addition & Subtraction of Whole Numbers
  - Addition
  - Subtraction
  - Addition & Subtraction
- Multiplication & Division of Whole Numbers
  - Multiplication
  - Multiplication & Division
- Measurement
  - Length
  - Size
  - Liquid
  - Time
  - Bills & Coins
- Geometry
  - Shapes
  - Symmetry
  - Patterns
- Sets
  - Empty
  - One
  - Equal-Equivalent

Intermediate

- Numbers & Numeration
  - Names
  - Place Holders & Value
  - Expanded Notation
  - Rounding
  - Number Line
  - Inequalities
  - Exponential Notation
  - Fractions
  - Decimals
  - Bases
  - Roman Numerals
  - Primes & Factors
- Multiplication & Division
  - Whole Number Multiplication
  - Whole Number Division
  - Whole Number Multiplication & Division
  - Multiplication & Division of Fractions
  - Percent
- Arithmetic Applications
  - Applications of Whole Numbers
  - Applications of Fractions
- Number Systems
  - Finite-Infinite
  - Properties
  - Rational-Irrational
- Addition & Subtraction
  - Whole Number Addition
  - Whole Number Subtraction
  - Whole Number Addition & Subtraction
  - Simplification of Fractions
  - Addition of Fractions
  - Addition & Subtraction of Fractions
  - Addition & Subtraction of Decimals
- Sets
  - Introduction
  - Cardinal Number
  - Empty
  - Equal Equivalent
  - Subsets & Supersets
  - Operations
  - Venn Diagrams
  - Logarithms & Exponentials
  - Graphing
  - Functions
  - Inference
- Measurement
  - Length, Area & Volume
  - Maps
  - Bills & Coins
  - Statistics

Junior High

- Definitions & Rules
- Sets
- Numbers
- Arithmetic Operations
- Modular Arithmetic & Bases
- Fractions, Decimals & Proportions
- Word Problems
- Simplification & Substitution
- Equations
- Inequalities
- Functions & Relations
- Measurement
- Polygons
- Polynomials
- Exponents
- Graphs & Charts
- Sequences
- Angles & Trigonometry
- Probability, Combinations & Permutations
- Spatial Perceptions

Senior High

- Angles
- Computers & Data Processing
- Conics
- Construction
- Definitions
- Distance Formulas
- Equations
- Exponents
- Fractions, Decimals & Exponents
- Functions & Relations
- Graphing
- Inequalities
- Measurement
- Numbers
- Points, Lines & Planes
- Polygons
- Polynomials
- Primes & Factors
- Probability, Combinations & Permutations
- Radicals
- Proofs, Logic, Theorems & Axioms
- Sequences, Progression & Series
- Sets
- Simplification
- Slope-Intercept
- Trigonometry
- Vectors
- Word Problems

SOCIAL STUDIES

Primary

- Social Studies Terminology
- Principles of Geography
- Transportation & Communication
- Map Reading
- Living in Communities
- Safety Rules

Intermediate

- General Social Sciences
  - Procedures & Processes
    - Terminology
    - Map Reading
    - Critical Thinking
- Geography
  - General Principles
  - Countries
- History
  - Early Man
  - Ancient Civilizations
  - Middle Ages
  - American History

Secondary School

Introduction
Locating the Central Issue
Distinguishing Fact from Opinion
Determining Difficulty of Proof
Distinguishing Between Biased & Non-Biased Sources
Detecting Bias
Evaluating Sources of Information
Evaluating the Potential Validity of Sources
Recognizing Emotional Words
Drawing Inferences
Evaluating the Certainty of Statements
Determining Relevancy
Recognizing Stated & Unstated Assumptions
Distinguishing Between Selected Terms
Interpreting & Applying the Provisions of a Document
Selecting Probable Outcomes
Identifying Factors Leading to Significant Historical Events
Identifying Selected People, Places, Regions, or Events
Comparing & Contrasting Our Culture with Others

SCIENCE

Primary

Digestive System
Skin & Senses System
Respiration System
Characteristics of Animals
Earth Science
Circulatory System
Brain & Nervous System
Skeletal System
Plants
Mechanics & Heat

Intermediate

Characteristics of Body Systems
Digestive System
Respiratory System
Circulatory System
Nervous System
Skeletal System
Reproduction
Health
Characteristics of Animals
Insects
Characteristics of Plants
Nature of Matter
Color
Earth Science
Weather
Machines
Electricity
Planets & Space Travel
Mechanics & Heat
Light
Critical Thinking
Measurement

Junior High

Respiratory System
Excretory System
Animal Cells
Skeletal System
Oceanography
Space Travel
Matter
Energy
Measurement
Critical Thinking
Circulatory System
Digestive System
Nervous System
Geology
Laws of Motion
Weather
Properties of 4 Gases
Tools & Techniques
Drugs

SOURCE REFERENCE

3. Dr. W. James Popham
   Instructional Objectives Exchange
   The Center for the Study of Evaluation
   Box 24095
   Los Angeles, California 90024

Senior High

Physical Sciences

Measurement	Models & Problem Solving
Charts & Graphs	Mechanics
Energy	Atomic Structure
Heat	Waves
Light	Electricity & Magnetism
Gases	Moles
Structures, Formulas & Bonding	Solutions & Solubility
Equations & Equilibrium	Acids & Bases
Reactions & Rates	Oxidation-Reduction
Electrochemical Cell	Electrolysis
	Qualitative Analysis

Life Sciences

Capillarity	Diffusion & Osmosis
Electron Transport System	Enzymes
Genetics	Microscope
Organic Compounds	Photosynthesis
Plant Function & Structure	Plasmolysis
Reproduction	Problem Solving
	Drugs

3. Instructional Objective Exchange - IOX (K-12) - University of California, Los Angeles, California ($8.00/topic)

Description: A comprehensive compilation of objectives and criterion-references test items. Many of the topic areas include multiple items per objective. Also available is a user's guide which discusses the selection of objectives, instruction and evaluation.

Topics Included:

Language Arts: Decoding Skills (K-SH)
- Discrimination
- Recognition of Letters by Name
- Pronunciation of Letter Combinations & Words
- Sight Vocabulary
- Recognition, Reproduction of Sounds and Their Association with Letters

Language Arts: Structural Analysis (K-SH)
- Individual Word Forms
- Multiple Word Forms
- Division of the Form
- History of the Form

Language Arts: Comprehension Skills (K-SH)
- Literal Comprehension
- Interpretation
- Vocabulary & Word Meaning
- Comprehension of Non-Written Materials

Language Arts: Composition Skills (K-SH)
- Basic Composition
  - Story Writing
  - Letters
  - Figurative & Descriptive Language
  - Poetry Writing
- Paragraph Form & Development
  - Expository Paragraph Form
  - Paragraph Development

Language Arts: Listening, Oral Expression, & Journalism (K-SH)
- Listening
  - Affective Listening
  - Comprehension & Interpretation
  - Analytical Listening
- Oral Expression
  - Speech
  - Oral Presentation
- Journalism
  - Journalistic Techniques
  - Journalistic Forms

Language Arts: Mechanics & Usage (K-SH)
- Mechanics
  - Capitalization
  - Punctuation
  - Integrated Practice
- Usage
  - Sentence Sense
  - Sentence Precision

English Skills (SH)
- Speech
- Mass Media
- Composition

Mathematics (P)
- Sets
- Numbers, Numerals, Numeration Systems
- Operations & Their Properties
- Measurement
- Geometry
- Relations, Functions & Graphs
- Probability & Statistics
- Application--Problem Solving
- Mathematical Sentences--Order, Logic

Language Arts: Study & Reference Skills (K-SH)
- Reference Skills - Use of Data Sources
- Study Skills

Language Arts: Traditional Grammar (K-SH)
- Parts of Speech
- Sentence Analysis

Language Arts: Transformational Grammar (K-SH)
- Sentence Components
- Transformations

English Literature (JH)
- The Novel
- Poetry

English Skills (JH)
- Composition
- Mechanics & Conventions
- Diction & Tone
- Speech
- Mass Media
- Reference Skills
- Study Skills

English Grammar (JH-SH)
- Parts of Speech
- Syntax
- Morphology
- Phonology

Mathematics (I)
- Sets
- Numbers, Numerals, Numeration Systems
- Operations & Their Properties
- Measurement
- Geometry
- Relations, Functions & Graphs
- Probability & Statistics
- Application--Problem Solving
- Mathematical Sentences--Order, Logic

Mathematics (JH)
- Sets
- Numbers, Numerals, Numeration Systems
- Operations & Their Properties
- Measurement
- Geometry
- Relations, Functions & Graphs
- Probability & Statistics
- Application--Problem Solving
- Mathematical Sentences--Order, Logic

Business Law (SH)
- Foundations of Law
- Law of Contracts
- Law of Property
- Law of Negotiable Instruments
- Law of Business Relations & Business Organizations

General Business (SH)
- Vocabulary
- Money & Banking Services
- Checking Accounts
- Cost of Living & Taxes
- Kinds of Business Ownership
- Sales
- Marketing Functions
- Insurance & Pensions
- Consumer Services
- Communications
- Employment Application & Interview
- Business Math
- Glossary

Home Economics (SH)
- Child Development
- Clothing & Textiles
- Consumer Practices
- Design Principles
- Health Services
- Home Management & Family Economics
- Housing
- Pregnancy

General Math (SH)
- Sets
- Numbers, Numerals, Numeration Systems
- Operations & Their Properties
- Measurement
- Percents
- Geometry
- Probability
- Logic
- Applications, Problem Solving

Business Education-Bookkeeping (SH)
- Ten Bookkeeping Processes
- Banking Transactions
- Cash Transactions
- Payroll Records
- Depreciation
- Accrual & Deferred Expense
- Vocabulary Skills

Business Education - Secretarial Skills (SH)
- Typing
- Shorthand
- Office Machines
- Office Practice
- Business English & Communication

Home Economics (JH)
- Child Development
- Clothing & Textiles
- Consumer Practices
- Foods & Nutrition
- Home Management & Family Economics

Health (Nutrition) (P-I)
- Daily Food Choices
- Nutrients from Food
- Food Processing
- Consumer Education
- Food in Man's Environment

Auto Mechanics (SH)
- Automotive Tune-up & Repair

General Metals (JH-SH)
- Property of Metals
- Operations & Functions
- Cutting & Shearing
- Filing
- Cutting Holes
- Grinding
- Forming & Bending Metals
- Metal Spinning
- Threaded Fasteners
- Soldering
- Riveting
- Sheet Metal Seams
- Polishing & Buffing
- Decorating Metal

Mechanical Drawing (JH-SH)
- Basic Drafting Skills
- Beginning Lettering
- Making the Drawings
- Orthographic Projections
- Dimensioning
- Scale Drawing
- Pictorial Drawing
- Section Drawing
- Auxiliary Views
- Productions Notations
- Thread Conventions & Symbols
- Assembly & Detail Drawings
- Reference Symbols

Music (P-I)
- Melody
- Harmony
- Melody & Harmony
- Rhythm
- Musical Form
- Musical Sound
- Performance
- Band Instruments
- Wind Instruments
- String Instruments

Spanish (JH-SH)

Electronics (JH-SH)
- Fundamentals
- Block Diagrams
- Direct-Current Circuits
- Primary & Secondary Batteries
- Magnetism
- Electromagnetic Induction
- Direct-Current Generators
- Direct-Current Motors & Controls
- Alternating Current
- Single-Phase Circuits
- Operations & Maintenance
- Glossary

Woodworking (JH-SH)
- Tools
- Reading a Working Drawing
- Stock Billing
- Distances & Lines
- Clamping Stock
- Crosscutting & Ripping Stock
- Getting Out Rough Stock
- Irregular Surfaces
- Planning Stock
- Chamfering
- Laying-Out Patterns
- Boring Holes
- Sawing Curves
- Making Joints
- Fastening Joints
- Sanding
- Bleaching
- Finishing
- Hanging Doors
- Mounting Locks
- Correcting Defects
- Gluing Upstock
- Removing Finishes

Physical Education (P)
- Locomotor Skills
- Sensory Motor Skills
- Balance
- Total Body Skills
- Eye-Hand Skills
- Eye-Foot Skills

SOURCE REFERENCE

4. Mr. Larry Conaway
   Assistant to the Director
   1860 Lincoln, Suite 300
   Denver, Colorado 80203

American History (JH-SH)
- Historical Figures
- Historical Inferences
- Analysis of Data
- Historical Speeches
- Historical Documents
- British Colonial Acts
- Values & Goals
- Political Philosophies
- Military Conflict
- Political Influence
- Society & Culture
- Supreme Court Cases
- Constitutional Rights
- Legislation
- Territorial Expansion
- Geography
- United Nations
- Testing Hypotheses
- Political Protest

Attitudes Related to Tolerence (SH)
- List of Objectives
- Paper & Pencil Instruments (Direct Self-Report)
  - General
  - Ethnic
- Paper & Pencil Instruments (Inferential)
  - General
  - Ethnic

Sociology (I-JH)
- The Method of Sociology
- Social Organization
- Social Processes & Social Change

Measures of Self Concept (K-SH)
- Objectives by Grade Ranges
- Self-Concept Measures
  - Direct Self Report
  - Inferential Self Report
  - Observational Indicators

Attitude Toward School (K-SH)
- Objectives by Grade Ranges
- Attitude Toward School Measures
  - Direct Measures
  - Inferential Measures
  - Observational Indicators

Judgment: Deductive Logic & Assumption Recognition (JH-SH)
- List of Objectives
- Measures

Anthropology (I)
- Man as a Unique Animal
- Fossil Man & Prehistory
- The Record of Culture
- The Nature of Culture
- Genetics, Evolution & Race

Early Childhood Education
- Achieving in the Arts
- Language Arts
- Math & Arithmetic Skills
- Promoting Physical Growth
- Science
- Satisfying Social & Personal Needs

4. National Assessment of Educational Progress (P-SH) - National Assessment Project, Denver Colorado ($1.00/curriculum area)

Description: Booklets of objectives in a variety of curriculum areas. For each area objectives are listed which are appropriate to ages 9, 13, 17 and young adults. Also available are demonstration packages which indicate items used for assessment at each of the age levels in each of the assessed areas. The objectives and the assessment instruments cover a wide range of difficulty levels.

Topics Included:

Mathematics

- Number & Numeration Concepts
- Arithmetic Computation
- Estimation & Measurement
- Algebraic Expressions
- Functions
- Geometry
- Mathematical Proof
- Business & Consumer Math
- Miscellaneous
- Properties of Numbers & Operations
- Sets
- Exponents & Logarithms
- Equations & Inequalities
- Probability & Statistics
- Trigonometry
- Logic
- Attitude & Interest

Social Studies

- Have Curiosity about Human Affairs
- Use Analytic-Scientific Procedures Effectively
- Are Sensitive to Creative-Intuitive Methods of Explaining the Human Condition
- Have Knowledge Relevant to the Major Ideas & Concerns of Social Scientists
- Have a Reasoned Commitment to the Values that Sustain a Free Society

Science

- Know Fundamental Facts & Principles of Science
- Possess the Abilities & Skills Needed to Engage in the Processes of Science
- Understand the Investigative Nature of Science
- Have Attitudes about & Appreciations of Scientists, Science, & the Consequences of Science that Stem from Adequate Understandings

Reading

- Comprehend What is Read
- Analyze What is Read
- Use What is Read
- Reason Logically from What is Read
- Make Judgments Concerning What is Read
- Have Attitudes about & an Interest in Reading

Writing

- Write to Communicate Adequately in a Social Situation
- Write to Communicate Adequately in a Business or Vocational Situation
- Write to Communicate Adequately in a Scholastic Situation
- Appreciate the Value of Writing

Literature

- Read Literature of Excellence
- Become Engaged In, Find Meanings In, and Evaluate A Work of Literature
- Develop a Continuing Interest & Participation in Literature and the Literary Experience

Art

Perceive & Respond to Aspects of Art
Value Art as an Important Realm of Human Experience
Produce Works of Art
Know About Art
Make & Justify Judgements about the Aesthetic Merit & Quality of Works of Art

Music

Perform a Piece of Music
Read Standard Musical Notation
Listen to Music with Understanding
Be Knowledgable about some Musical Instruments, Some of the Terminology of Music, Methods of Performance & Forms, Some of the Standard Literature of Music, & Some Aspects of the History of Music
Know about the Musical Resources of the Community & Seek Musical Experiences by Performing Music
Make Judgments aout Music, & Value the Personal Worth of Music

Career & Occupational Development

Prepare for Making Career Decisions
Improve Career & Occupational Capabilities
Possess Skills that are Generally Useful in the World of Work
Practice Effective Work Habits
Have Positive Attitudes Toward Work

Citizenship

Show Concern for the Welfare & Dignity of Others
Support Rights & Freedoms of All Individuals
Help Maintain Law & Order
Know the Main Structure & Functions of Our Government
Seek Community Improvement through Active Democratic Participation
Understand Problems of International Relations
Support Rationality in Communication, Thought & Action on Social Problems
Take Responsibility for Own Personal Development & Obligations
Help & Respect Their Own Families
Nurture the Development of Their Children as Future Citizens

Other topics will be available.

SOURCE REFERENCE

5. Mrs. Wanda Perry
PLAN
Westinghouse Learning Corporation
2680 Hanover Street
Palo Alto, California 94304

5. PLAN: Master Objectives (K-SH) - Westinghouse Learning Corporation, Palo Alto, California

Description: A program of individualized education in Reading, Language Arts, Mathematics, Science, and Social Studies which can be adapted to each pupil's needs, abilities, interests and goals. The major components of the program are a set of instructional objectives, a variety of study plans to achieve these objectives, and a computer support system to help plan student learning and monitor student progress. Objectives for the Guidance program are also included.

Topics Included:

Primary Objectives

Language Arts
- Orientation to PLAN
- Readiness
- Language Arts Skills
- Reading Skills
- Writing

Social Studies
- History
- Sociology
- Geography
- Economics

Science
- Biology
- Psychology
- Physics
- Chemistry
- Geology
- Meteorology
- Inquiry Development - Observing/Perceiving
- Inquiry Development - Taxonomic/Classifying
- Inquiry Development - Experimenting

Mathematics
- Numerals
- Place Value to 9999
- Roman Numerals
- Addition of 4-digit Numbers
- Subtraction of 4-digit Numbers
- Multiplication Facts
- Division with 1-digit Numbers
- Addition of Like Fractions
- Patterns of Objects
- Functions of a Graph
- Geometric Figures
- Value of Coins
- Time to the Minute
- Linear Measure to 1/4 Inch
- Temperature Readings
- Elements of a Set
- Set Notation
- Number Sentences
- Word Problems

Intermediate Objectives

Language Arts
- History & Dialectology
- Speaking
- Reading-Phonetic Analysis & Structural Analysis
- Reading-Critical Reading Skills
- Reading-Literature & Literary Form
- Writing-Correspondence Skills
- Listening
- Reading-Study Skills
- Reading-Organizational Skills
- Reading-Interpretation Skills
- Writing-Form & Analysis
- Writing-Creative Writing
- Writing-Structure
- Writing-Mechanics
- Writing-Study Skills
- Non-Verbal Communication

Science
- Life Science
- Psychology
- Physical Sciences
- Earth & Space Science
- Inquiry Process Development - Observing/ Perceiving
- Inquiry Process Development - Taxonomic/ Classifying
- Inquiry Process Development - Experimenting
- Humanizing

Mathematics
- Analysis of Number & System
- Operations: Numerical & Algebraic
- Operations: Graphics
- Geometry
- Measure & Probability
- Sets & Logic
- Problem Solving

Social Studies
- History
- Sociology/Anthropology
- Psychology/Philosophy
- Political Science
- Geography
- Economics
- Social Studies Research

Secondary Objectives

Language Arts
- History & Dialectology
- Listening
- Speaking
- Reading-Critical Reading Skills
- Writing-Form & Analysis
- Writing-Creative Writing
- Writing-Structure & Mechanics
- Writing-Study Skills

Mathematics
- Analysis of Number & System
- Operations: Numerical & Algebraic
- Calculus
- Operations: Graphics
- Geometry
- Measure & Probability

Social Studies
- History
- Sociology/Anthropology
- Psychology/Philosophy
- Political Science
- Geography
- Economics
- Social Studies Research

Science
- Life Sciences
- Life Science-Ecology
- Life Science-Psychology
- Physical Science-Physics
- Physical Science-Chemistry
- Earth Science-Geology
- Earth Science-Meteorology
- Earth Science-Astronomy
- Inquiry Process Development-Observing/Perceiving
- Inquiry Process Development-Questioning/ Problem Formulation
- Inquiry Process Development-Taxonomic/ Classifying
- Inquiry Process Development-Formulating Hypotheses
- Biology-Inquiry Development
- Inquiry Process Development-Experimenting
- Inquiry Process Development-Inferring/Applying

SOURCE REFERENCE

6. Dr. Dale Wiezenecker
Assistant Superintendent for Instruction
Behavioral Objectives Project Report
Brevard County Schools
P. O. Box 5
Titusville, Florida

7. Mr. George A. Koopman, Vice-President
Edcodyne Corporation
One City Boulevard West, Suite 935
Orange, California 92668

MICRO-COLLECTIONS

6. Brevard County Behavioral Objectives Project (K-I) - Brevard County Schools, Titusville, Florida

Description: A collection of objectives for all areas of the elementary school curriculum. Also included are pre-school objectives classified by subject matter area.

Topics Included: Reading, Language Arts, Mathematics, Health, & Safety Objectives for these categories are arranged by grade level.

Science
Observing
Classifying
Space-Time Relations
Measuring
Predicting
Formulating Hypotheses
Controlling Variables
Defining Operationally
Interpreting Data

Social Studies
Man & Society
Geographical Environment
Culture Structure & Behavior
Self-Government
Economic Needs & Wants
Societal Behavior
Skills
Values & Attitudes

Kindergarten & Nursey
Language Arts
Mathematical Relationships
Health, Physical Development & Safety
Art-Crafts
Music
Science
Social Studies

Music
Creativity
Verbalization
Music Reading
Discrimination & Skill
Comprehension
Value Judgements
Perception
Conceptualization
Attitudes
Application

Art
Visual Relationships
Production
Criticism

Physical Education
Physical Fitness
Rhythm & Movement Skills
Team Activities & Sports

7. Assessment Program of Early Learning Levels - APELL (K-P) - Edcodyne Corporation, Orange, California ($320.00/first year/class - $35.00 each additional year/class).

Description: The APELL is an instructional management system for use at the preschool, kindergarten, and first grade levels. It diagnoses skill levels based on specific measurable objectives and suggests instructional activities and materials for the child's individual needs.

SOURCE REFERENCE

8. Mr. Joe Carico
Educational Progress Corporation
2250 Monaghan Drive
Tallahassee, Florida 32303

9. Dr. Robert O'Reilly, Chief
Bureau of School and Cultural Research
State Education Department
Albany, New York 12224

Topics Included:

Pre-Reading
Visual Discrimination
  Similarities
  Differences
Auditory Association
  Beginning Sounds
  Word Beginnings
Letter Names

Language
Nouns
Pronouns
Verbs
Adjectives
Plurals
Prepositions

Pre-Math
Discrimination of Attributes
  Position, Size
  Quantity, Shape
Number Concepts
  Counting
  Number Identification
  Set Relationships

Number Facts
  Addition
  Subtraction

8. Multimedia Programs (K-JH) - Educational Progress Corporation, Tulsa, Oklahoma

*Description: A collection of multimedia programs which contain objectives embedded within the materials.
Program Titles:
  Human Growth & Development (c $130.00 to $360.00)
  Continuous Progress Laboratory (c $100.00)
  Audio Reading Progress Laboratory (c $80.00 to $340.00)

9. System for Pupil and Program Evaluation and Development (SPPED) (K-SH) - New York State Education Department, Albany, New York

*Description: SPPED is a comprehensive computer-based system for monitoring student progress and for aiding in program development. The technical support system contains the following:
  BOIR - Bank of Instructional Objectives, Items and Instructional Resources
  CAM - Comprehensive Achievement Monitoring
  MAST-T - Mastery Testing
  Test scheduling and test construction programs
  Training for teachers
  Paper Bank - Objectives and items for several areas.
SPPED was developed to aid teachers in designing instructional programs, in adjusting and refining instruction on a continuous basis, in monitoring student progress, and in managing student progress on a day to day basis.

*This annotation is based on a description of the materials; the actual materials were not forwarded for inspection.

SOURCE REFERENCE

10. Mrs. Margaret DuMars, Principal
Rosewood Elementary School
Vero Beach, Florida

11. Dr. Glenn Fletcher
Houston Independent School District
Houston, Texas 77002

It also aids the administrator in evaluating, monitoring and managing instructional programs. Students benefit from detailed feedback on their learning.
The objectives contained in the program are from three sources: IOX, Downers Grove and the state of New York. (The IOX and Downers Grove objectives are described previously - see MACRO-COLLECTIONS.)

10. Behavioral Objectives Syllabus (P-I) - Rosewood Elementary School, Vero Beach, Florida

Description: A collection of cognitive and affective objectives for administrators, teachers, support personnel and students.

Topics Included:

- Administration
- Guidance
- Media Center
- Textbooks
- Food Service
- Transportation
- School Plant & Facilities
- Art
- Health
- Health & Safety
- Language Arts
- Mathematics
- Music
- Physical Education
- Safety
- Science
- Social Studies

11. Objectives for Elementary Subject Areas (P-I) - Houston Independent School District, Houston, Texas

Description: An outline of terminal objectives in a number of areas which indicates performances expected of students upon the completion of the third grade and upon completion of the sixth grade.

Topics Included:

Handwriting

Language
- Appreciation: Observing & Listening
- Oral Language
- Written Composition
- Form & Mechanics
- Syntax

Reading
- Word Analysis & Study Skills
- Comprehension & Study Skills

Science
- Inquiry
- Scientific Attitudes
- Scientific Thinking
- Concepts

Mathematics
- Mathematicsl Strands
  - Concept Skills
  - Operations, Sentences, Properties
- Competency Strands
  - Computation

Social Studies
- Acquisition of Knowledge
- Development of Skills
- Development & Establishment of Values

Spelling

Study Habits

Affective and Interpersonal Goals

SOURCE REFERENCE

12. Mr. Norman E. Harris
Field Manager
Southeastern Region
Silver Burdett Company
3272 Peachtree Road, N. E.
Atlanta, Georgia 30305

13. Mr. John Patrick
Room 506 Knott Building
State Department of Education
Tallahassee, Florida 32304

14. Evaluation Center
Hopkins Schools
1001 Highway 7
Hopkins, Minnesota 55343

15. Mr. O. D. Roberts, Director
Program Planning
Leon County Public Schools
925 Miccosukee Road
Tallahassee, Florida 32303

12. Objectives for Spelling, Social Studies and Mathematics (P-JH) - Silver Burdett Company, Atlanta, Georgia ($2.00 each)

Description: Includes three booklets: Performance Objectives for "Spell Correctly"; Performance Objectives for "Contemporary Social Science Curriculum"; and A Nongraded Program for "Modern Mathematics through Discovery". Objectives are organized by levels. The resources upon which the spelling and mathematics objectives are based contain procedures for evaluation.

13. Elementary and Secondary Accreditation Standards (P-SH) - Department of Education, Tallahassee, Florida

Description: Guides for writing performance objectives in the visual arts, mathematics, and English language arts. Each guide includes goal statements and objectives for instruction, materials and equipment, and facilities.

14. Evaluation Center Collection (P-SH) - Hopkins Evaluation Center, Hopkins, Minnesota

*Description: Materials written and collected by teachers for use in their own classrooms. They are reviewed annually by the teachers who utilize item analysis data in order to improve the collection.

Topics Included:
- Algebra
- Biology
- English
- Geometry
- American History
- Mathematics
- Social Studies
- World Studies

15. Objectives Based on State Accreditation Standards (P-SH) - Leon County School System, Tallahassee, Florida

Description: A collection of process and product objectives based on Florida's Accreditation Standards. Includes objectives for students, instructional personnel, and the school.

SOURCE REFERENCE

16. Dr. Raymond Bernabei
Intermediate Unit #22
Administration Building - 7th Floor
Bucks County Public Schools
Doylestown, Pennsylvania 18901

17. Mr. David W. Lloyd
Thurston Intermediate School
700 Park Avenue
Laguna Beach, California 92615

Topics Included:

Vocational-Technical	Exceptional Children
Industrial Arts (SH)	Educable Mentally Retarded
Technical Education (SH)	Visually Handicapped
Distributive Education (SH)	Learning Disabilities
Home Economics (JH)	Speech Correction
School Health & Safety Service (P-I)	Pre-School
Art (P-SH)	Music (P-I)
Physical Education (P-I)	Foreign Language (SH)
Guidance Services (P-SH)	Media (P-SH)

16. Quality Education Program Study (P-SH) - Bucks County Public Schools, Doylestown, Pennsylvania ($12.00)

Description: A series of booklets which describe objectives and evaluation for ten major goals of quality education. Each goal has two reports. The first is a Description which contains behavioral statements of effective and ineffective student behaviors related to the goal, a rationale for the areas of effective student behavior, and related teacher strategies. The second is related to the Needs Assessment of that goal and contains instructions, the general needs assessment instrument, and an analysis of instruments.

Topics Included:

GOAL ONE	-	Self Understanding
GOAL TWO	-	Understanding Others
GOAL THREE	-	Basic Skills
GOAL FOUR	-	Interest in School & Learning
GOAL FIVE	-	Good Citizenship
GOAL SIX	-	Good Health Habits
GOAL SEVEN	-	Creativity
GOAL EIGHT	-	Vocational Development
GOAL NINE	-	Understanding Human Accomplishment
GOAL TEN	-	Preparation for a Changing World

17. Objectives for the Intermediate School (JH) - Thurston Intermediate School, Laguna Beach, California ($2.00/topic area)

Description: Continua of objectives for academic, non-academic and vocational areas. Also available are job descriptions for personnel described in performance terms.

Topics Included:

Science
Tools of Science
Chemical Laws of Nature
Magnetism and Electricity
Structure of Life
Movement
Receptors
Digestion
Circulation
Reproduction
Ecology
Personal Health

Mathematics
Sets
Numbers & Numerals
Mathematical Operations
Number Sentences
Number Theory
Measurement
Geometry
Statistics & Probability
Logic
Functions

English
Basic Study Skills
Language Study
Written Communication
Literature
Reading Skills

Physical Education
Aerobics
Balance
Basketball
Creative Dance
Soccer
Speedaway
Stunts & Tumbling
Swimming
Tennis
Track & Field
Folk Dance
Volleyball
Wrestling
Football
Health

Social Studies Continuum
Social Studies Skills
Anthrolopogy
Civilization
The Age of Democratic Revolution
Politics and the United States Constitution
The Constitution and Individual Rights
Geography

Music Appreciation
Instrumentation
Baroque & Classical Periods (1700-1820)
Romantic Period & Twentieth Century (1820-present)
Wind Instruments
Percussion Instruments
Stringed Instruments
Choral Music

Typing

Shop
Woodworking
Metal Working
Industrial Drawing

Arts
Art
Crafts

Foreign Language - Spanish & French
Pronounciation
Vocabulary
Grammar
Culture
Oral Communication
Reading
Writing

SOURCE REFERENCE

18. Mr. Samuel Sharrow
Dunbar Community High School
500 N. Caroline Street
Baltimore, Maryland 21205

18. Instructional/Curriculum Materials - Learning Activity Packages (JH-SH) - Dunbar Community High School, Baltimore, Maryland ($1.00/Learning Activity Package)

Description: A collection of instructional modules each containing objectives, a pretest, activities and resources for each objective, and evaluation procedures.

Topics Included:

Social Studies
Let Freedom Ring
American Medicine & Health
A Lap on Maps
Melting Pot
Immigration

Data Processing
Card Punch Machine Operations (5 LAPS)

Mathematics
Natural Numbers (5 LAPS)
Decimals (5 LAPS)
Fractions (8 LAPS)
Percents (5 LAPS)
Metric System (3 LAPS)
Programma 101 (5 LAPS)
Coordinate Geometry (5 LAPS)
Sets (5 LAPS)

Science
Basic Laboratory Techniques & Safety Precautions
Measuring Devices: Measurement of volume, weight, & temperature
Solutions & How to Prepare Them
The Microscope
Cells, the Basic Units of Life
DNA: The Molecule of Life
Life from Life: Reproduction & Development
Acquiring & Transporting Materials
Techniques in Culturing Micro-organisms
Microbiology: Part I Introduction
Microbiology: Part II Bacteriology
Microbes Other than Bacteria

English
Kernel Structure Eliminates Wordiness
Who, What, & What's Happening
Adjectives & Adverbs
Coloring Your Ideas
Add a Little Spice
Focusing on Phrases & Clauses
Let's Make it a Howling Success
Come to the Point
Kernel Structure Avoid Wordiness
Wrapping it All Up
Following Directions on Tests & Assessment of Skills
From Sentences to a Paragraph
Non-Verbal Communication
A LAP on LAP's

SOURCE REFERENCE

19. Dr. Donald T. Tosti
Vice-President
Individual Learning Systems, Inc.
P. O. Box 3388
San Rafael, California 94902

19. Individualized College Level Courses: Criterion-Referenced Tests (A) - Individual Learning Systems, Inc., San Rafael, California

Description: For each topic, a test set includes alternate forms of criterion-referenced unit tests, criterion-referenced course post-tests, and answer keys.

Topics Included: Behavior Technology: Motivation and Contingency Management
Introductory Sociology
Precalculus: Algebraic & Trigonometric Functions
An Individualized History of the Unites States (Volumes I and II)

Other courses are currently available.

SOURCE REFERENCE

20. Dr. Raymond Bernabei
Intermediate Unit #22
Administration Building - 7th Floor
Bucks County Public Schools
Doylestown, Pennsylvania 18901

21. Dr. Donald Wood, Coordinator
Curriculum and Supervision
State Department of Education
140 Cordell Hull Building
Nashville, Tennessee 37219

22. Ms. Anita Brewer, Director
Information and Communications
Southwest Educational Development Laboratory
800 Brazos Street
Austin, Texas 78701

EARLY CHILDHOOD

20. Behavioral Objectives Curriculum Guide: A Transitional Pre-First Grade Program (K) - Bucks County Public Schools, Doylestown, Pennsylvania ($3.50)

Description: An individualized program of sequential, developmental learning experiences leading to readiness for first grade. Designed for children who have completed kindergarten who have indicated a need for an extended readiness period. Includes an outline of objectives and suggested pupil learning experiences for each objective.

Topics Included:

Visual Motor Triordination
- Body in Space Perception
- Eye-Hand Coordination

Visual Perception
- Visual Memory
- Visual Discrimination

Auditory Perception
- Auditory Discrimination
- Auditory Motor Sequential
- Auditory Memory

Language Use
- Speech
- Oral Language Facility & Comprehension
- Reading Comprehension

21. A Curriculum Guide for Kindergarten Children (K) - Lake County, Nashville, Tennessee

Description: A curriculum guide which contains objectives and instructional activities for eight basic learning skills areas. Also contains suggested equipment and materials, suggested instruments for evaluation, and a basic book list.

Topics Included:
- Visual Perception & Auditory Perception
- Motivation
- Classroom Skills
- Language Development
- Mathematics
- Socialization
- Esthetic Development
- Physical Development

22. Early Childhood System for Economically Disadvantaged and Culturally Different Children (Pre K-K) - Southwest Educational Development Laboratory, Austin, Texas

*Description: The system emphasizes teaching of sensory - perceptual, cognitive and language skills.

SOURCE REFERENCE

23. Dr. Charles L. Bertram
Appalachia Educational Laboratory, Inc.
P. O. Box 1348
Charleston, West Virginia 25325

The system is offered in four variations:
A three-year sequential bilingual program for children ages three to five
A two-year sequential bilingual program for children ages four and five
Bilingual Kindergarten
Kindergarten English Speakers
Each variation employs four basic components - instructional material, staff development, parent education, and learning ecology. Lesson plans contain objectives, materials, precautions and special instructions.

23. The Initial Phase of a Preschool Curriculum Development Project (Pre - P) - West Virginia University, Morgantown, West Virginia

Description: Objectives for a compensatory preschool program for Appalachian children. Objectives are divided into major categories of motor activities, language skills, and cognition, and deal with the three methods of intervention - home visitation, mobile facilities, and television programming.

Topics Included:

Orienting and Attending Skills
(e.g. persistence)

Motor Activity
(gross, fine, creative)

Language
Language Construction
(phonology & sentence production)
Descriptive Language
(describing objects & events & dramatic expression)

Cognition
Sensory Discrimination
(auditory, perceptual, tactile)
Higher Order Cognitive Acts
(e.g. memory, seriation, problem solving)

SOURCE REFERENCE

24. Miss Frankie MacDonald
Supervisor, Art Education
2418 Hatton Street
Sarasota, Florida 33577

25. Mr. Edmund W. Schaefer
Music Contact Person
Bay County School Board
1855 Liddon Road
Panama City, Florida 32401

THE CREATIVE ARTS

Art

24. Behavioral Objectives Based on State Accreditation Standards (P-SH) - Sarasota Public School System, Sarasota, Florida

Description: A listing of objectives for art, P-SH, based on the Proposed Accreditation Standards for Florida Schools, 1969-70, designed to provide a basis for a total art program.

Topics Included:

Elementary

Cognitive Approach	Unity
Pre-Cognitive Approach	Shape
Invisible Symbols & Ideas	Emphasis
Sculpture	Volume
Collages & Mosaics	Contrast
Fabrics & Textiles	Line
Architecture & Home Furnishings	Repetition
Ceramics, Pottery & Jewelry	Color
Printing & Graphics	Transition
Severing, Joining & Forming	Texture
New Media or Hardware	Tension
Value, Intensity, Texture	Space
Objects, Style, Composition	Drawing
Lines, Figures, Interpretation	Painting
Justification of Negative Response	Displaying
Focus-Closure	Colors
Symbols	Attributes
Response	Meanings
Changes	Quality
	Feelings

Secondary

Arrangements & Principles	Characteristics
Forming & Constructing	Arrangement
Potentials & Limitations	Reaction
Qualitative	Comparative
	Value

Music

25. Bay County Music Guide (K-I) - Bay County Public Schools, Panama City, Florida

Description: A comprehensive music guide for elementary grades including goals, student objectives, suggested related activities, materials, equipment, textbooks and recordings. Also includes a basic song list, filmstrip titles, resource units and sources of materials and supplies.

SOURCE REFERENCE

26. Mr. Phil E. Suiter
Director of Teacher Preparation
State Department of Education
Charleston, West Virginia 25305

27. Mrs. Dorothy Land
Elementary Music Supervisor
Palm Beach County Schools
Box 2469
West Palm Beach, Florida 33402

28. Mr. T. James Edison
Supervisor, Elementary Music
707 E. Columbus Drive
Tampa, Florida 33602

Topics Inlcuded:
- Rhythm
- Melody
- Harmony
- Form
- Singing
- Listening
- Playing
- Reading
- Creativity

26. West Virginia Music Program (K-A) - West Virginia State Department of Education, Charleston, West Virginia

Description: A series of booklets and handbooks describing the music program for the State of West Virginia from K through A. Includes expected measurable outcomes for students and statements of teacher objectives for the music program. Program reflects a spiral approach.

Topics Included:
- Band
- Vocal Music
- Listening
- Musical Experience
- Relationships Between Music & Other Arts
- Music Reading
- Music History
- Self-expression
- Music Structure

27. Assessment of the Behavioral Curriculum in Music (P-I): Appendix E, Objectives of the Elementary Music Curriculum - Palm Beach County Schools, West Palm Beach, Florida

Description: A behavioral curriculum in elementary music with objectives sequenced according to logical development, student growth and development and convenience and tradition.

Topics Included:
- Melody
- Form
- Expressive Qualities
- Rhythm
- Harmony

28. Behavioral Objectives for Music (P-I) - Hillsborough County Public Schools, Tampa, Florida

Description: A collection of cognitive and affective music goals and objectives for elementary school students.

SOURCE REFERENCE

29. Mr. O. D. Roberts
Instructional Services
925 Miccosukee Road
Tallahassee, Florida 32303

30. Mr. William E. George
Assistant Superintendent for Instruction
Indian River County School Board
P. O. Box 2648
Vero Beach, Florida 32960

31. Dr. D. C. Anderson, Director
Division of Elementary and Secondary Education
Kentucky Department of Education
Frankfort, Kentucky 40601

Topics Included:
- Creativity
- Singing
- Verbalization
- Music Reading
- Discrimination & Skill
- Comprehension
- Value Judgements
- Perception
- Conceptualization
- Attitude
- Application

29. Elementary School Music Curriculum Guide (P-I) - Leon County School System, Tallahassee, Florida

Description: An elementary music curriculum guide composed of goals and objectives for singing, moving, listening, playing, creating and reading for grades 1-5. Also included are scope and sequence objectives for music reading and recommended music textbooks.

30. Indian River County Music Guide, 1970 (P-I) - Indian River County, Vero Beach, Florida

Description: An elementary music curriculum guide composed of skill, literature and concept objectives for grades 1-6.

Topics Included:
- Melody
- Harmony
- Rhythm
- Form Expression & Style

31. Music Education (P-SH) - Kentucky Department of Education, Frankfort, Kentucky

Description: Definitions of basic concepts and practices essential to the development of a music program. Outlines desirable goals for the various areas and grade levels.

Topics Included:
- Foundations of Music Education
- Musical Values and Education
- Program Planning and Development
- Special Areas
- Experiences Contributing to the Music Program

SOURCE REFERENCE

32. Mr. Lloyd Schmidt
Music Consultant
Connecticut State Department of Education
Bureau of Elementary and Secondary Education
Hartford, Connecticut

33. Mr. Robert Lampi
Florida Bandmasters Association
Box 666
Pahokee, Florida 33476

32. A Taxonomy for Behavioral Objectives in Music (P-SH) - Connecticut State Department of Education, Hartford, Connecticut

Description: A general taxonomy for objectives in music which includes goals, classification of behavior, classification of sub-topics for general musicianship, activities, parameters and conditions. Instrumentation of the taxonomy is outlined for cognitive behavior, affective behavior, psychomotor behavior, and creativity. A glossary of terms is provided.

33. Florida Bandmasters Association State Accreditation Committee Report: Instructional Objectives (JH-SH) - Florida Bandmasters Association, Pahokee, Florida

Description: Cognitive and affective objectives for students participating in band, based upon state of Florida Accreditation Standards.

Topics Included:

Expression	Evaluation
Listening	Sensitivity
Verbalization	Creation
Performance	Respect
Skill Development	Attention
Perception	Valuing
Post-School Participation	Interest
Recognition	Implementation
Analysis	Growth

SOURCE REFERENCE

34. Dr. L. C. Leach
Specialist in English Language Arts
State Department of Education
State Education Building
Little Rock, Arkansas 72142

LANGUAGE

English

34. Behavioral Objectives, Language and Literature (K-SH) - Arkansas State Department of Education, Little Rock, Arkansas

Description: A series of objectives in the cognitive and affective domains for courses in language and literature in grades K-12.

Topics Included:

Objectives in Language

- The Nature of Language
- History of Language
  - Old English Period
  - Middle English
  - Early Modern English
  - Modern English
- Dialect
- Semantics
- Morphology
- Phonology
- Sentence Patterns
- Form Classes
- Syntax
  - Noun Phrase
  - Verb Phrase
  - Single-Base Transformations
  - Double-Base Transformations

Objectives in Literature

- Children's Literature
  - Literary Structure & Form
  - Folk Tales
  - Adventue Stories
  - Fanciful Tales
  - Animal Stories
  - Myths
  - Fables
  - Stories of Other Lands & People
  - Biography
  - Historical Fiction
  - Poetry
- Essays
- Poetry
  - The Nature of Poetry
  - Tone & Diction
  - Sound, Rhythm, & Meter
  - Figurative Language
  - The Poet & His Poetry
  - Characterization in Poetry
  - Theme in Poetry
  - Values in Poetry
  - Analysis & Evaluation of Poetry
  - Appreciation for Poetry
- Critical Approaches to Literature
  - Traditional Approaches
  - Formalistic Approach
  - Exponential Approaches
  - Psychological Approach
  - Mythical & Achetypal Approaches
- Short Story
  - The Nature of the Short Story
  - Setting
  - Point of View
  - Character Development
  - Plot Structure
  - Style & Tone
  - Theme
- Novel
  - The Nature of the Novel
  - Setting
  - Point of View
  - Character Development
  - Plot Structure
  - Style & Tone
  - Theme
- Drama
  - The Nature of Drama
  - Tragedy
  - Comedy
  - Setting
  - Plot
  - Point of View
  - Character Development
  - Style
  - Appreciation for Drama

SOURCE REFERENCE

35. Malcolm Price Laboratory School
State College of Iowa
Cedar Falls, Iowa

36. Mr. George M. Gibbs, Coordinator
Division of Curriculum Services
Fairfax County Public Schools
10700 Page Avenue
Fairfax, Virginia 22030

37. Mr. Jack Allen
Director of Curriculum
Multnomah County Intermediate Education District
P. O. Box 16657
Portland, Oregon 97216

35. The English Language Arts Program (K-SH) - Malcolm Price Laboratory School, Cedar Falls, Iowa ($1.00)

Description: A guide for instruction which provides an overview of the concepts to be dealt with in the area of language arts. Desirable outcomes are listed at four levels for each of seven topic areas reflecting a spiral approach. Also included is a bibliography.

Topics Included:
- Listening
- Reading
- Speaking
- Writing
- Language
- Spelling
- Use of the Library

36. Reporting to Parents: English Language Arts (K-JH) - Fairfax County Public Schools, Fairfax, Virginia

Description: A booklet listing objectives in English Language Arts to be completed by each student at each grade level. A space is provided for indicating the date on which the student attained the objective. The form is used as a reporting vehicle to the parents.

Topics Included:
- Recognize and Use Words Effectively
- Comprehend and Interpret Written Material
- Use Accepted Mechanics of Writing
- Use Basic Study Skills
- Write for Informational Purposes
- Write for Creative Expression
- Use Oral and Dramatic Expression Effectively
- Analyze and Evaluate Multimedia Communication
- Establish Personal Tastes and Values

37. Tri-County Area Course Goal Collection in Language Arts (K-SH) - Multnomah County Intermediate Education District, Portland, Oregon

Description: A collection of goal statements arranged in a hierarchical manner to reflect the need for greater specificity as one progresses from the district level, through the program level, down to the course level. A fourth level of goal statements is the teacher made goal statement. Goals at this level, however, are not specified by the district.

SOURCE REFERENCE

38. Mr. George T. Gabriel, Director
Office of Educational Research
Board of Education of Baltimore County
Towson, Maryland 21204

39. Mr. Tom Gann
Jefferson County Schools
1810 25 Court 800th
Homewood, Alabama 35209

40. Mr. Normand Robitaille
Project Director
Mascenic Bilingual Program, ESEA, Title VII
Sacred Heart School
Greenville, New Hampshire 03048

38. English Language Diagnostic Test: First Level (P) - Board of Education of Baltimore County, Towson, Maryland

Description: A test designed to measure acquisition of specific language concepts and skills included in grades 1-3 of the GUIDE TO THE STUDY OF THE ENGLISH LANGUAGE, K-6, a publication of the Board of Education of Baltimore County. Parallel forms are available.

Topics Included:

Word Order	Nouns
Punctuation	Verbs
Syntax	Pronouns
Kinds of Sentences	Coordination

39. Language Arts Units (P-JH) - Jefferson County Schools, Birmingham, Alabama

Description: A series of units, for grade three or grade seven, designed to give every child a degree of success with his English program. Each third grade unit contains an overview, resources, a teacher plan, behavioral objectives, bulletin board suggestions, a student lesson directional sheet, a student individual work sheet or exercise sheet, a post-test, and an answer key. Each seventh grade unit contains an overview, behavioral objectives, a teacher's unit, evaluation, and students' units. In all units, objectives are classified according to Bloom's Taxonomy.

Topics Included:

Grade 3	Grade 7
Playacting Stories	Nouns
Building Good Sentences	Pronouns
Friendly Letters	Verbs
Learning About Verbs	Adjectives
Writing Paragraphs	Adverbs
Nouns	Connectives
Telling Stories	Punctuation
Helpful Units in Speech	Understanding Words
Improving Sentences	Letter Writing
Finding Facts	Library

French

40. Behavioral Objectives for French (K-P) - Sacred Heart School, Greenville, New Hampshire

Description: A listing of French objectives for kindergarten, first grade, and second grade. In addition, for each objective suggested materials and processes are included.

SOURCE REFERENCE

41. Mr. J. W. Knight
Center for Individualized Instructional Systems
P. O. Box 11343
Durham, North Carolina 27703

42. Dr. Dale Wiezenecker
Assistant Superintendent for Instruction
Brevard Mathematics Continuum
Brevard County Schools
P. O. Box 5
Titusville, Florida

43. Mr. D. L. Bundren
Clark County School District
2832 East Flamingo Road
Las Vegas, Nevada 89109

MATHEMATICS

41. Behavioral Objectives for the Individualized Mathematics System, Levels I-IX (K-I) - Regional Education Laboratory for the Carolinas and Virginia, Durham, North Carolina

Description: Presentation of ten topics in elementary mathematics at each of nine levels. For any given topic and level, the number of objectives ranges from one to eleven.

Topics Included:
- Numeration
- Addition
- Subtraction
- Multiplication
- Division
- Geometry-to be completed
- Fractions
- Mixed Operations
- Money
- Time
- Measurement

42. Mathematics Continuum (K-I) - Brevard County Schools, Titusville, Florida

Description: A sequence of elementary mathematics objectives listed in order of difficulty within a topic. Includes resources, and criterion-referenced tests.

Topics Included:

Mainstream Topics
- Numeration
  - Sets
  - Number Theory
  - Number Sentences
  - Place Value
- Addition & Subtraction
- Multiplication & Division
- Fractions
- Decimals
- Integers

Floating Topics
- Geometry
  - Metric
  - Non-metric
- Time
- Money
- Special Topics

43. Mathematics Curriculum Guide (K-I) - Clark County School District, Las Vegas, Nevada

Description: A guide of essential math concepts necessary to build a sequential program through the elementary school. Concepts are arranged in a continuous pattern. The curriculum guide is accompanied by criterion-referenced tests for each grade level. Tests are machine scorable and alternate forms are available.

SOURCE REFERENCE

44. Ms. Hattilu M. Moore, Principal
Prairie View Elementary School
1801 S. E. 32nd Place
Gainesville, Florida 32601

45. Moreland School
Snake River District #52
Moreland, Idaho

Topics Included:

Number
Sets
Whole Numbers (Cardinals)
Rational Numbers
Integers
Irrational Numbers
Ordinal Numbers

Operations
Whole Numbers
Rational Numbers
Integers

Geometry
Geometric Figures
Properties
Constructions

Numeration
A Number has many Names
Whole Numbers
Rational Numbers
Integers (Notation)
Irrational Numbers
Other Notation

Measurement
Concepts of Measurement
Measurement of Physical Properties (Standard Units)
Renaming Measures
Computations with Measures

44. Mathematics Levels Program (K-I) - Prairie View Elementary School, Gainesville, Florida

Description: A detailed mathematics guide for the elementary school. A spiral approach is used with the same topics occurring in each grade and at increasingly more difficult levels. It includes suggested materials and equipment, activities and games, evaluation procedures, and an in-depth discussion of the first grade program.

Topics Included:
Number and the Study of Sets
Numbers and Systems of Numeration
Mathematical Operation I - Whole Numbers
Mathematical Operation II - Fractions
Geometry
Graphing

45. Individualized Nongraded K-3 Math Program (K-P) - Moreland School, Snake River District No. 52, Moreland, Idaho

Description: Description of an individualized mathematics program which includes scope and sequence charts, behavioral objectives and evaluation instruments.

SOURCE REFERENCE

46. Publications c/o Mrs. Mary Starr
State Department of Education
State Office Building
Boise, Idaho 83707

Topics Included:

Number & Operations
The Natural Numbers
-Counting & Numeration
The Natural Numbers
-Add, Sub, Mult, Div
The Rational Numbers
The Rational Numbers
-Add, Sub, Mult, Div
The Integers
The Irrational Numbers

Geometry
Non-metric Geometry
Metric Geometry

Sets, Functions, Relations, Systems, and Logic
Sets
Relations & Functions
Mathematical Sentences
Systems & Logic

Measurements & Estimation
Concept of Measurement
Measurable Quantities
Renaming Measures
Computations with Measure

46. Idaho Curriculum Guide in Mathematics (K-JH) - State of Idaho Department of Education, Boise, Idaho

Description: A comprehensive guide for the teaching of mathematics arranged by grade level. The organization of topics reflects a consistent spiral approach throughout the guide. It includes major topics, objectives, and teaching aids. In addition there are supplementary materials, tables, and problems listed in the appendix.

Topics Included:

Number & Operations
Natural Numbers - Counting & Numeration
Natural Numbers - Add, Sub, Mult, Div
Rational Numbers
Rational Numbers - Add, Sub, Mult, Div
Integers
Irrational Numbers

Sets, Functions, Relations, Systems & Logic
Sets
Relations & Functions
Mathematical Sentences
Systems & Logic

Geometry
Non-metric Geometry
Metric Geometry

Measurements & Estimation
Concept of Measurement
Measurable Quantities
Renaming Measures
Computations with Measure

SOURCE REFERENCE

47. Mr. Clyde E. Stevens
Superintendent of Schools
District School Board of Lake County
201 W. Burleigh Boulevard
Tavares, Florida 32778

48. Mr. George M. Gibbs, Coordinator
Division of Curriculum Services
Fairfax County Public Schools
10700 Page Avenue
Fairfax, Virginia 22030

49. Dr. John A. Dow
Research for Better Schools, Inc.
1700 Market Street
Philadelphia, Pennsylvania 19103

47. Lake County Mathematics Continuum and Resource Guide (K-JH) - Lake County School System, Tavares, Florida

Description: A sequential program of concepts and skills in mathematics. The guide is organized by topic; each topic consists of a continuum of skills for levels A-I (K-JH). Includes objectives, examples and related resources for each objective. Objectives only are available in a separate document entitled "Mathematics Continuum". Two additional documents related to the Continuum are also available: "Mathematics Placement Tests" and "Mathematics Mastery Tests".

Topics Included:
- Numeration
- Addition & Subtraction
- Multiplication & Division
- Fractions
- Rational Numbers
- Decimals
- Integers
- Non-metric Geometry
- Metric Geometry
- Geometry
- Time
- Money
- Special Topics

48. Reporting to Parents: Mathematics (K-JH) - Fairfax County Public Schools, Fairfax, Virginia

Description: A booklet listing objectives in mathematics to be completed by each student at each grade level. A space is provided for indicating the date on which the student attained the objective. The form is used as a reporting vehicle to the parents.

Topics Included:
- Numeration
- Whole Numbers & Operations
- Fractions & Operations
- Mixed Operations
- Equations, Inequalities, Graphs; Proportions & Percent
- Enrichment
- Measurement
- Money & Time
- Integers & Operations
- Rational Numbers & Operations
- Geometry

49. Math Levels A-G (P-I) - Research for Better Schools, Inc., Philadelphia, Pennsylvania

Description: An outline of objectives in elementary mathematics, listed by topic within a level. Levels indicate objectives of greater or lesser complexity for any given topic.

SOURCE REFERENCE

50. Office of the Superintendent
Greece Central School District #1
Rochester, New York

51. Mrs. Mary D. Gibb
Director of Staff Development
Monroe County School System
Key West, Florida 33040

52. Mr. Otis E. Williams, Jr.
Product Manager BLM
425 North Michigan Avenue
Chicago, Illinois 60611

Topics Included:

Numeration	Fractions
Place Value	Money
Addition	Time
Subtraction	Systems of Measurement
Multiplication	Geometry
Division	Applications
Combination of Processes	Special Topics

50. Mathematics Assessment Program (P-I) - Greece, New York

*Description: The Mathematics Assessment Program (MAP) is a computer-based system for monitoring the progress of students in mathematics. Contained within the package are objectives for assessing mastery and for diagnosis of specific learning difficulties. The tests are criterion-referenced to aid the teacher in determining the effectiveness of his or her teaching.

51. Mathematics Objectives (P-I) - Monroe County School System, Key West, Florida

Description: Presents elementary mathematics objectives within twelve levels, with given topics recurring at several levels.

Topics Included:

Readiness	Multiplication & Its Inverse
Sets	Solving Verbal Problems
Addition & Its Inverse	History of Mathematics
Measurement & Units of Measurement	Early Number Systems
Geometry	Statistics & Probability
	Place Value

52. The "Telling Time" Audio-Tutorial Program (P-I) - Encyclopaedia Britannica Educational Corporation, Chicago, Illinois

Description: The telling time audio-tutorial program consists of four 15-minute lessons designed to teach key concepts and skills. The materials are complete teaching units, utilizing audio instruction and manipulative materials. Each lesson states prerequisite skills necessary to complete the lesson and objectives for the lesson.

SOURCE REFERENCE

53. Dr. Barbara S. Prentice
Director of Research
Tucson Public Schools
P. O. Box 4040
Tucson, Arizona 85717

54. Mr. Don Boehmer
Director, Special Education
Barnes County Courthouse
Valley City, North Dakota 58072

53. Sequence of Whole Numbers, Sequence of Measurement and Measurement: Time (P-JH) - Tuscon Public School District, Tuscon, Arizona

Description: Three documents, each containing a sequence of behavioral objectives for a different area. Each reflects a spiral approach.

Topics Included:

Sequence of Whole Numbers

- One-to-one Correspondence
- Concept of Zero
- Number System
- Sets
- Basic Operations
- Power & Roots
- Coordinates
- Ratio & Proportion
- Symbols
- Commutative Property
- Associative Property
- Distributive Property
- Relations
- Base Systems
- Prime & Composite Numbers
- Modulo Arithmetic

Sequence of Measurement

- Beginning Measuring
- Arbitrary Units
- Unit Changes
- Standard Units
- Precision
- Relative Error
- Multiplying & Dividing Measurements

Measurement Sequence: Time

- Telling Time
- Reading Notation
- Writing Notation
- Naming Days & Months
- Oral Reading of "to the hour"

54. Guideposts Along the Way: An Arithmetic Guide for the Educable Mentally Handicapped Students in Special Classes (P-SH) - Barnes County, Valley City, North Dakota

Description: A mathematics curriculum for educable mentally handicapped students. Includes goals, specific objectives, suggested resources, and work sheets. Within a topic, objectives are classified as P, I, JH or SH.

Topics Included:

- Spatial Awareness
- Rote Counting
- Geometric Form - Size Comparisons
- Number Symbol Recognition
- One-to-one Relationships
- Money
- Measurement
- Addition
- Subtraction
- Grouping by 2's, 5's, & 10's
- Meters, Graphs, Schedules & Maps
- Number Symbol Sequence
- Writing & Spelling Number Symbols
- Place Value
- Calendar
- Clock
- Fractions
- Roman Numerals
- Multiplication
- Division
- Decimals
- Percentages

SOURCE REFERENCE

55. Mr. Donald Holquist
Mineola High School
Garden City Park, New York 11040

56. Ms. Jane J. Leonard
University School
Florida State University
Tallahassee, Florida 32306

55. Mathematics Objectives (P-SH) - Mineola High School, Garden City Park, New York

Description: A sequential listing of objectives, by unit, for a total mathematics curriculum, grades one to twelve. Each of the 67 topical units includes a listing of sub-topics, definitions, and specific objectives for each sub-topic.

Topics Included:

- Whole Numbers
- Sets
- Properties of Numbers
- Primes & Composites
- Integers
- Fractions
- Statistics
- Rational Numbers
- Scientific Notation
- Squares & Square Roots
- Real Numbers
- Precision & Accuracy
- Decimals
- Ratio & Proportion
- Percents
- Measurement
- Geometry
- Probability
- Flowcharts
- Programma
- Business Tables
- Algebra
- Trigonometry
- Slide Rule

56. Intermediate Math Continuum (I) - University School, Florida State University, Tallahassee, Florida

Description: A compilation of mathematics objectives which includes tasks, specific objectives, and sample test items.

Topics Included:

Grade 4
- Sets
- Numbers
- Place Value
- Addition
- Subtraction
- Multiplication
- Division
- Estimating
- Fractions
- Decimals
- Measurement
- Geometry
- Number Theory

Grade 6
- Place Value
- Whole Number Systems
- Computing
- Number Theory
- Fractions
- Ratio
- Decimals
- Set Theory
- Numeration Systems
- Clock Arithmetic
- Logic

Grade 5 not available as of March, 1972

SOURCE REFERENCE

57. Mr. Jerry Sullivan
Associate Regional Manager
CTB/McGraw-Hill
1375 Peachtree Street, N. E.
Atlanta, Georgia 30309

58. Dr. Raymond Bernabei
Intermediate Unit #22
Administration Building - 7th Floor
Bucks County Public Schools
Doylestown, Pennsylvania 18901

57. Prescriptive Mathematics Inventory - PMI (I-JH) - CTB/McGraw-Hill, Atlanta, Georgia (Specimen Set - $4.00)

Description: The PMI is designed to provide diagnostic and prescriptive information concerning specific objectives. The PMI is divided into three levels: Level A - grades 4 & 5, Level B - grades 5-7, Level C - grades 7 & 8. The items sample various levels of difficulty in each of the content categories represented. The Teacher's Guide gives a listing of the objectives upon which the PMI is based. Different levels have different numbers of items for any given objective.

Topics Included:
- Operations on the Number Line
- Whole Numbers -Add, Sub, Mult, Div
- Positive Fractions -Add, Sub, Mult, Div
- Decimal Numbers -Add, Sub, Mult, Div
- Negative Integers
- Negative Fractions
- Rounded Numbers
- Commutative Property
- Associative Property
- Distributive Property
- Identity Element
- Inverse Relation
- Closure
- Number Sequences
- Missing Addends & Factors
- Number Theory
- Mathematical Sentences
- Measurement
- Place Value
- Numeration Systems
- Non-Metric Geometry
- Percent
- Sets
- Functions & Graphs
- Statistics
- Probability
- Trigonometry
- Reasoning

58. Behavioral Objectives Curriculum Guide: Mathematics Grade Seven (JH) - Bucks County Public Schools, Doylestown, Pennsylvania ($3.00)

Description: Three manuals of objectives for mathematics: grade seven - below average, grade seven - average, and grade seven, above average. Concepts presented are part of the whole program and not unique to any subdivision. For each objective the guide contains: estimated time for student accomplishment, behavioral conditions, behavioral indicators, performance level outcomes, and suggested performance assessment.

Topics Included:
- Sets
- Non-Metric Geometry
- Numbers & Numerals
- Measurement & Geometry
- Equations

SOURCE REFERENCE

59. Educational and Industrial Testing Service
Box 7234
San Diego, California 92107

59. Individualized Mathematics Program - IMP: Individually Prescribed Instruction Based on Performance Objectives (JH) - Educational and Industrial Testing Service, San Diego, California ($98.00/class).

Description: The IMP provides for a continual assessment of student progress, diagnosis of learning difficulty, and prescription of instruction. The IMP contains preassessment instruments - Tests of Achievement in Basic Skills (TABS-IMP), Checklists of objectives, lesson units correlated with the objectives, and post assessment instruments (TAP-IMP).

Topics Included:

Arithmetic Skills
Whole Numbers (Basic Operations)
Integers (Basic Operations)
Fractions
- Basic Operations
- Reduction
- Proper
- Improper
- Mixed Numbers

Rational Numbers (Definitions)
Decimals (Basic Operations)
Percent
Irrational Numbers (Definitions)
Literal Number
- Combination
- Multiplication
- Division

Geometry - Measurement & Application
Geometric Figures
Perimeter
Area
Pythagorean Theorom
Time Measurement
Linear Measurement
Volume Measurement
Application of Measurement
Proportion

Modern Concepts
Prediction of Sequences
Ordered Pairs - Linear Functions
Intersection and Union of Sets
Expanded Notation
Other Number Bases
Base Two Operations
Inequalities
Number Properties
Divisibility Rules
Primes

SOURCE REFERENCE

60. Dr. John A. Dow
Research for Better Schools, Inc.
1700 Market Street
Philadelphia, Pennsylvania 19103

61. Mr. Reeves Gandy
Senior Editor - Listen Look Learn
Educational Development Laboratories, Inc.
Huntington, New York 11743

62. Dr. Margaret Houlihan
Division of Evaluation and Research
St. Louis Public Schools
St. Louis, Missouri

READING

60. Individually Prescribed Instruction - Reading Objectives (K-I) - Research for Better Schools, Philadelphia, Pennsylvania

Description: A working paper listing student skills for eleven levels, with multiple skills listed within each major topic. Also included are sample test items for each skill.

Topics Included:
- Visual Discrimination
- Auditory Discrimination
- Literal Comprehension
- Interpretive Comprehension
- Evaluative Comprehension
- Library Skills
- Related Reading
- Vocabulary Development
- Reference Skills
- Structural Analysis
- Organizational Skills

61. Performance Objectives for Listen Look Learn Cycles R-100: A Multi-Media Communication Skills System (K-I) - Educational Developmental Laboratories, A Division of McGraw-Hill Book Company, Huntington, New York

Description: A bulletin which identifies the specific goals of the Listen Look Learn system in areas related to visual and auditory perception, vocabulary development, and reading fluency. Listen Look Learn is a non-graded multi-media, communications skills system emphasizing basic reading and related language arts skills.

62. Reading Comprehension: Primary and Middle Grades (K-I) - St. Louis Public Schools, St. Louis, Missouri

Description: A two volume set containing objectives adapted from the Instructional Objectives Exchange at U.C.L.A. Also included are sample test items, possible answers to the items, and references to sources of supplementary materials.

Topics Included:

Primary

- Determining Story Facts
- Sequence
- Locating Specific Information
- Main Idea
- Personal Traits & Emotional Reaction of Story Characters
- Comparing & Contrasting
- Predicting Outcomes
- Fact & Fantasy

SOURCE REFERENCE

63. Dr. Jeannette Jarecke
Director of Reading K-12
School Board of Broward County
1320 Southwest Fourth Street
Fort Lauderdale, Florida 33312

64. Dr. Dale Wiezenecker
Assistant Superintendent for Instruction
Reading Skills Reference Guide
Brevard County Schools
P. O. Box 5
Titusville, Florida

Middle Grades

Charts	Drawing Conclusions
Locating Specific Information	Interpretation of Facts
Reading for Details	Predicting Outcomes
Main Idea	Making Inferences
Organizing to Show Sequence	Using Context
Seeing Relationships	Figurative Language
Recognizing Emotional Attitudes	Distinguishing Fact & Fancy
Observing Characterization	Distinguishing Fact & Opinion
	Comparing & Contrasting

63. Reading Probes (K-I) - Broward County Public Schools, Ft. Lauderdale, Florida

Description: A skills booklet for elementary school reading; objectives, oral directions and pupil response sheets are included.

Topics Included:

Multisensory Readiness	Decoding Skills
Vocabulary Skills	Comprehension Skills
Study Skills	

64. Reading Skills Reference Guides - Primary and Intermediate (K-I) - Brevard County Schools, Titusville, Florida

Description: Each guide is a sequential presentation of skills (objectives) in the Scott Foresman Reading Series and developmental patterns of organization for using appropriate supportive materials. The zones of learning in the Guide are based upon the sequential development of skills as presented in the Scott Foresman Series. Each zone introduces new learnings appropriate to that level, and reinforces skills and understandings that have been introduced in previous zones. Each guide has a Basic program and an In-depth program.

Topics Included:

Primary	Intermediate
Sentence Meaning	Word & Phrase Meaning
Sensory Images	Sentence & Paragraph Meaning
Emotional Reactions	Main Idea
Motives	Relationships
Relationships	Critical Reading
Visual Perception	Locating Information
Auditory Perception	Word Analysis
Scrutiny Context	Dictionary
Phonetic Analysis	
Structural Analysis	
Dictionary Skills	

SOURCE REFERENCE

65. Dr. Mark Shedd
Superintendent of Schools
School District of Philadelphia
Philadelphia, Pennsylvania 19103

66. Mr. Michael Fratella, Principal
Lake Forest Elementary School
427 Southeast 43rd Street
Gainesville, Florida

65. System for Reading Improvement for the 70's (K-I) - School District of Philadelphia, Philadelphia, Pennsylvania

Description: A progress report providing a description of the program, the philosophy, and the plan of operation for the system. An appendix contains an outline of reading competencies, with both pupil and teacher objectives stated. Five topics are dealt with at nine levels of difficulty, reflecting a spiral approach.

Topics Included:
Mechanics of Handling Books
Word Recognition Skills
Comprehension
Study Skills
Appreciation of Literature

66. Systematic Study for Improving Reading Skills of Lake Forest Students (K-I) - Lake Forest Elementary School, Gainesville, Florida

Description: A two document set, the first of which contains an overall description of the program, including the philosophy, the student population, review of research, current methods, survey of current programs, survey of resources, and the student objectives and needs. The second contains activities, resources, and evaluation strategies for the student objectives.

Topics Included:
Developing Reading Readiness
- Physical Development
- Emotional and Social Development
- Educational Development

Develop Sight Vocabulary

Develops Phonic Analysis
- Visual & Auditory Symbols

Develops Structural Analysis of Words
- Compound Words
- Prefixes, Suffixes & Roots
- Syllabication
- Accentuation

Learns to Use Context Clues to Recognize & Obtain Word Meanings

Vocabulary

Developing Skills in Comprehension
- Information Skills
- Study Skills
- Interpretive Skills
- Creative Skills

Learns Effective Use of the Dictionary As an Aid to Pronounciation

SOURCE REFERENCE

67. Dr. Richard E. Schutz
Executive Director
Southwest Regional Laboratory
11300 LaCienga Boulevard
Inglewood, California 90304

68. Mr. Hilton F. Jones, Sr.
Superintendent of Schools
Dixie County Schools
Cross City, Florida

69. Dr. Fred Phillips
Assistant Superintendent
Curriculum and Instruction
Birmingham Board of Education
P. O. Drawer 10007
Birmingham, Alabama 35202

70. School Division
The MacMillan Company
255 Ottley Drive, N. E.
Atlanta, Georgia 30324

67. The Learning Mastery System (K-P) - Southwest Regional Laboratory of Educational Research and Development, Inglewood, California

*Description: A computer-based management system designed to facilitate the identification, reporting, and individual guidance of pupil progress with respect to specific instructional outcomes. It contains a Teachers Manual, Criterion Exercises, Practice Exercises, and Class Record sheets.

68. A Learning Design for Reading (K-SH) - Dixie County Schools, Cross City, Florida

Description: A document containing student objectives, suggested learning tasks, and instructional resources. Tasks and resources are given for each objective. An appendix contains sources of instructional materials.

Topics Included:
- Pre-Reading Background Experience
- Beginning Reading
- Vocabulary Development
- Word Recognition Skills
- Understanding Comprehension, & Critical Reading Skill
- Personal Development Through Reading
- Interpretation of Literary Content & Merit
- Reading Interest & Appreciations
- Work Study Skills
- Approaches to Outcomes of Reading

69. A Program Description (K-SH) - Birmingham Public Schools, Birmingham, Alabama

Description: Program objectives and assessment techniques for Title I children at four levels: Kindergarten, Early Elementary (1-3), Later Elementary (4-6), and Secondary (7-12).

70. Behavioral Objectives - The MacMillan Reading Program (P) - The MacMillan Company, Atlanta, Georgia

Description: The program includes objectives, mastery tests, workbook exercises, practice exercises and provisions for individual differences.

SOURCE REFERENCE

71. Mr. Charles Smyth, Vice-President
Random House
School Department
201 East 50th Street
New York, New York 10022

Topics Included:

Reading Readiness
Basic Behavioral Skills
General Language Skills
Visual Discrimination
Auditory Discrimination

General Reading Skills
Using Printed Material Appropriately
Silent Reading
Oral Reading

Word Identification
Using Phoneme-Grapheme Relationships
Using Context Clues to Identify Words
Using Minimal Variation
Knowing & Applying Phonic Generalizations
Using Kinesthetic Procedure to Reinforce Perception, Identification, & Recall
Practicing Good Word-Preception Habits
Using Self-Help Cues, Dictionary, or Glossary to Discover Pronunciation of New Words
Recognizing Learned Words Without Benefit of Context
Demonstrating a Growing Sight Vocabulary

Morphemic Analysis & Graphic Cues
Phonemic & Meaning Implications of Inflectional Endings
Compound Words in Which Components are Known Words
Phonemic & Meaning Implications of Affixes
Root Word in a Word with Prefixes and/or Suffixes
Combining Cues in Identifying Words
Meaning Implications of Graphic Clues

Study Skills
Self-Help Picture & Sentence Cues
Dictionary Identification of Words, Pronunciation & Meanings
Locating Needed Reading Material
Outlining & Summarizing Material Read

Comprehension
Words, Phrases, Sentences & Paragraphs
Literal Comprehension
Inferential Comprehension

Attitudes, Interests, & Appreciation
Develops Interest in Reading
Improves & Refines Reading Interests

71. Criterion Reading System (P-I) - Random House, New York, New York

Description: Identifies 488 intellectual skills arranged from the most simple to the complex. Within the performance-based, criterion-referenced system six areas of expected competencies are identified and sequenced in five levels of complexity. The identification of both outcome and process skills provides the basis for diagnosis, reading instruction, and student mastery.

SOURCE REFERENCE

72. Dr. Hazen Curtis
Department of Educational Research
Florida State University
Tallahassee, Florida 32306

Topics Included: Sensorimotor Skills
Phonology Skills
Syntax Skills
Structural Analysis Skills
Verbal Information Skills
Comprehension Skills

72. Florida Agricultural Migrant Right-to-Read Program: A Suggested Set of Objectives (P-I) - Florida State Department of Education, Tallahassee, Florida

Description: A set of suggested behavioral objectives, and examples, for the Florida Migrant Right-to-Read Program. Objectives are presented in outline form by topic and by level (12) within topic.

Topics Included:

Oral-Aural Skills
- Listening
- Speaking
- Oral Interpretation
- Oral Language Structure

Vocabulary Development
- Sight Vocabulary
- Word Meaning

Word Analysis
- Phonetic Recognition
- Structural Recognition
- Context

Comprehension
- Main Ideas
- Specific Information
- Critical Reading

Attitudes & Appreciation
- Attitudes
- Children's Literature

Study Skills
- Alphabet Usage
- Outlining
- Read From Maps, Tables & Graphs
- Dictionary Skills
- Library Skills
- Abbreviations
- Parts of Books
- Reading Rate

Applications
- Vocabulary
- Oral-Aural Skills
- Word Analysis
- Comprehension
- Study Skills

SOURCE REFERENCE

73. Mr. Jerry Sullivan
Associate Regional Manager
CTB/McGraw-Hill
1375 Peachtree Street, N.E.
Atlanta, Georgia 30309

74. Dr. Wayne Otto
Wisconsin Research and Development
Center for Cognitive Learning
The University of Wisconsin
Madison, Wisconsin

75. Mrs. Lois Tjaden
Supervisor of Reading and Elementary
Language Arts
Sarasota County School District
2418 Hatton Street
Sarasota, Florida 33577

73. Prescriptive Reading Inventory - PRI (P-I) - CTB/McGraw-Hill, Atlanta, Georgia

Description: The PRI is designed to provide diagnostic and prescriptive information concerning specific objectives and is divided into levels. The items sample various levels of difficulty in each of the content categories represented. The Teacher's Guide gives a listing of the objectives upon which the PRI is based. Different levels have different numbers of items for any given objective.

The PRI is still under development. More specific information as to topics is not yet available.

74. The Wisconsin Design for Reading Skill Development (WDRSD) (P-I) - The University of Wisconsin, Madison, Wisconsin ($700.00)

*Description: WDRSD focuses on the skill development aspect of reading instruction in the elementary school. Explicit objectives are stated for the areas of word attack, comprehension, and study skills. Skills in Self-Directed Reading, Interpretive Reading, and Creative Reading are accompanied by general guidelines or "open" objectives. WDRSD is based on a collection of reading skills believed to be essential for competence in reading. The purpose of WDRSD is to expedite individually guided education in reading by providing the teachers with: means for assessing individual pupil's skill development with reference to criterion behavior, a comprehensive management system to guide grouping for, and planning of, skill development instructions, and a plan for monitoring each pupil's progress in the development of specific reading skills.

75. Sarasota County Objectives in Reading and English, SCORE (P-SH) - The School Board of Sarasota County, Sarasota, Florida

Description: A continuous hierarchy of goals and objectives for basic tasks and skills, ranging from simple prerequisite skills to advanced complex skills. Also includes evaluation and feedback procedures.

Topics Included:
- Motor Development & Motor Integration
- Perceptual-Motor
- Symbolic Development
- Word Recognition Skills
- Comprehension Skills
- Study Skills
- Creative Application
- Personal & Individual Reading
- Life Skills

SOURCE REFERENCE

76. Research Press Company
P. O. Box 3177
Champaign, Illinois 61820

76. Pass Packet (I) - Research Press Company, Champaign, Illinois

Description: A systematic program for skill maintenance in 4th, 5th and 6th grade reading, math, and language arts through a series of 80 curriculum-centered sets of work materials for each grade.

Topics Included:*

Read & Think Skills
- Sequence & Specific Information
- Interpreting Details and Main Ideas
- Relationships
- Identify Reasons for Writing
- Distinguishing Fact from Fiction
- Seeing Literary Style
- Predicting Outcomes

Sentence Sense
- Recognizing Sentences
- Sentence Structure
- Capitalization
- Adjectives
- Alphabetical Order
- Contractions
- Punctuation
- Possessives

Word Attack
- Root Words, Prefixes & Suffixes
- Syllabication
- Antonyms & Synonyms & Compound
- Contractions
- Word in Context Clues
- Word in Glossaries

Math
- Reading Numbers
- Add
- Subtract
- Multiply
- Divide

Sight & Sound
- Consonants & Consonant Combinations
- Vowels & Vowel Combinations

Using English
- Noun Forms
- Irregular Verbs
- Pronoun Forms
- Homonyms
- Difficult Adverbs

*4th grade topics only - 5th and 6th grade not reviewed

SOURCE REFERENCE

77. Xerox Education Division
600 Madison Avenue
New York, New York 10022

78. Mr. Jack Allen
Director of Curriculum
Multnomah County Intermediate
Education District
P. O. Box 16657
Portland, Oregon 97216

79. Dr. George T. Gabriel, Director
Office of Educational Research
Board of Education of Baltimore County
Towson, Maryland 21204

SCIENCE

77. Science - A Process Approach (K-I) - Xerox Corporation, Carlstadt, New Jersey

Description: The AAAS, Science - A Process Approach, is a comprehensive program for teaching science in the elementary school. Each exercise is organized under a general topic heading and includes objectives, sequence, rationale, vocabulary, materials, instructional procedure, generalizing experience, appraisal, and competency measures. The objectives for the primary grades are classified as basic processes, while those for the intermediate grades are classified as integrated processes requiring the combination of two or more basic ones.

Topics Included:

Primary	Intermediate
Observing	Controlling Variables
Using Space/Time Relationships	Interpreting Data
Classifying	Formulating Hypotheses
Using Numbers	Defining Operationally
Measuring	Experimenting
Communicating	
Predicting	
Inferring	

78. Tri-County Area Course Goal Collection in Biological and Physical Science (K-SH) - Multnomah County Intermediate Education District, Portland, Oregon

*Description: A collection of goal statements arranged in a hierarchial manner to reflect the need for greater specificity as one progresses from the district level, through the program level, down to the course level. A fourth level of goal statement is the teacher made goal statement. Goals at this level, however, are not specified by the district.

79. Summary Report of NSSA - Workshops on Behavioral Objectives - Science (P-SH) - Board of Education of Baltimore County, Towson, Maryland

Description: An outline of affective objectives for science. Also included are a list of behavioral verbs and examples of related behavior.

SOURCE REFERENCE

80. Mr. Lloyd Otterman
General Manager
Box 11607
Santa Ana, California 92705

81. Mr. Charles R. Davis, Jr.
Assistant Supervisor of Science
State Department of Education
Richmond, Virginia 23216

Topics Included:

Awareness of Conditions

Relates to Science	People of Science
The Interaction of Science & Technology	Science Grows
The Interaction of Science & The Arts	Science Advances Manking
Limitations of Science	Inquiry
	Scientific Climate

Acceptance of Values

Superstition	Considered Response
Weighing Evidence	Science as a Basic Part of Modern Living

Preference for Values

Curiosity	Patience
Persistence	Open-Mindedness
Confidence in Scientific-Method	Intellectual Satisfaction
Enjoyment from Science	Creativity

80. Independent Learning Program (I) - Doubleday Multimedia, Santa Ana, California

Description: Multimedia packages containing filmloops, records and written materials. Objectives are embedded within total learning package which also includes pre and post tests, learning activities, quest study activities and references. Five major topics are dealt with in this series. For each topic, four physical characteristics (color, body structure, locomotion, sense) and four behavior patterns (getting food and water, protection, reproduction, caring for young) are dealt with.

Topics Included:

Animals Without Backbones	Fish
Reptiles	Birds
Mammals	

81. Earth and Space Science (JH) - Virginia State Department of Education, Richmond, Virginia

Description: A curriculum guide outlined by significant ideas in earth and space science. The guide includes goals, specific objectives, suggested student investigation, activity references and reading references.

SOURCE REFERENCE

82. Mr. Charles R. Davis, Jr.
Assistant Supervisor of Science
State Department of Education
Richmond, Virginia 23216

Topics Included:

The Land on Which We Live
The Earth's Structure
The Earth's Crust
Changes in Topography
Transfer of Energy
Rocks and Minerals
History of the Earth
Topographic & Geologic Maps

The Waters of the Earth
The Distribution of Land and Sea
Shoreline Evolution & Features
Vertical Structure of the Ocean
Sea Water
Topography of the Ocean Bottom
Energy Changes in the Ocean
Life in the Ocean
Ocean Resources

The Earth & Its Place in the Universe
Overview
Motions
The Solar System
Locating & Ranging
The Stars
Time
Origin of the Universe
Satellites & Space Travel

The Everchanging Atmosphere
The Sea of Air
Weather & Climate

82. Physical Science (JH) - Virginia State Department of Education, Richmond, Virginia

Description: A curriculum guide outlined by significant ideas in earth and space science. The guide includes goals, specific objectives, suggested student investigations, and teacher notes and references.

Topics Included:

Measurement of Matter

Properties of Matter
Thermal Conversion Points
Thermal Expansion
Specific Heat
Solubility

Classification of Matter
Physical Properties
Organization of Components

Structure of Matter
Radioactivity
Atomic Theory

Interaction of Energy With Matter
Objects in Motion
Energy, How it is Observed

SOURCE REFERENCE

83. Mid-Continent Regional Laboratory
104 East Independence Avenue
Kansas City, Missouri 64106

83. Inquiry Objectives in the Teaching of Biology (JH-SH) - Mid-Continent Regional Educational Laboratory, Kansas City, Missouri ($1.50)

Description: A categorization of behavioral objectives, emphasizing inquiry processes as exemplified by content. There are representative examples of behaviors involving both inquiry processes and biological content. For each major topic there are inquiry factors and acceptable student performance.

Topics Included:

Recognition & Differentiation
Taxonomic Principle
Antecedent - Consequent Principle
Structure - Function Principle
Regulation & Homeostasis Principle
Self-Regulatory System Principle

Skills in Carrying out Principles of Inquiry
Activities Charactertistic of the Taxonomic Mode
Activities Characteristic of the Antecedent - Consequent Mode
Activities Characteristic of the Structure - Function Mode
Activities Characteristic of the Regulation - Homeostasis Mode
Activities Characteristic of the Self-Regulatory Mode
A Biological Problem Stated in Terms of the Five Guiding Principles

Major Factors in Inquiry

Formulating a Problem
Designing a Study
Interpreting the Data or Findings
Formulating Hypotheses
Executing the Plan of Investigation
Synthesizing Knowledge Gained from Investigation

Additional Specificity for Inquiry Factors

Formulating a Problem
Designing a Study
Interpreting the Data or Findings
Formulating Hypotheses
Executing the Plan of Investigation
Synthesizing Knowledge Gained from Investigation

Samples of Instructional Strategies to Bring About Desired Behaviors

Formulating a Problem
Designing a Study
Interpreting the Data or Findings
Formulating Hypotheses
Executing the Plan of Investigation
Synthesizing Knowledge Gained from Investigation

SOURCE REFERENCE

84. Mr. Timothy J. Westbrook
Vice-President
Ward's Natural Science Establishment, Inc.
P. O. Box 1712
Rochester, New York 14603

Affective or Attitudinal Qualities of Inquiry Behaviors

Curiosity	Confidence
Openness	Perserverance
Reality Orientation	Satisfaction
Risk-taking	Respect for Theoretical Structures
Precision	
Responsibility	Concensus & Collaboration

Inquiry into Inquiry

Analyzing Research for its Basic Parts
Analyzing Relationships Among Basic Parts
Evaluating a Research Report
Comparing Scientific Papers
Applying Skills Gained from Analyzing Scientific Papers to Other Reports

84. Solo-Learn System (SH) - Ward's Natural Science Establishment, Inc., Monterey, California ($27.00/unit)

Description: A self-contained, individualized, multi-media system utilizing visual and audio aids, employing active participation by students. Each topical unit contains instructions, learning objectives, an audio cassette, a filmstrip, a package of 25 four-day student review sheets, and answer keys.

Topics Included:

Biological Measurements	Photosynthesis
Diffusion & Osmosis	Photosynthesis Details I
The Animal Cell	Photosynthesis Details II
Carbohydrates	Fats
Carbohydrate Structure & the Glycosidic Link	Amino Acids
Amino Acid Structure & the Peptide Link	Mutations & Chromosomal Modifications
Proteins & Deamination	Ecology
Biological Oxidation & ATP	Homeostasis
Oxidations: Fundamental Types	The Energy Cycle & Trophic Levels
The KREBS Cycle	The Water Cycle
Mitosis	The Carbon Cycle
Meiosis	The Nitrogen Cycle
Gametogenesis	Malaria
Probability	Schistosomiasis
Sex Determination & Sex-Linkage	Mendelian Inheritance
DNA	Linkage, Crossing-Over & Chromosome Maps
	The Nucleotides

SOURCE REFERENCE

85. Mr. Ron Caselli
Coordinator of Ethnic Studies
Sonoma County Office of Education
2555 Mindocino Avenue
Santa Rosa, California 95401

86. McGraw-Hill Book Company
330 West 42nd Street
New York, New York 10036

SOCIAL STUDIES

85. An Instructional Plan for Teaching Black History (P-A) - Sonoma County of Education, Santa Rosa, California

Description: Instructional objectives for Black History designed primarily for secondary social studies. Also includes a basic reading list and a basic film list.

Topics Included:
Inferential Purposes of the Black History Program
Basic Historical Content of the Black History Program
Development of Skills Within the Black History Program

86. History of Man Film Guide (SH-A) - McGraw-Hill Films, New York, New York

Description: Descriptions of content of films intended primarily for use in world history, world cultures, and European history courses. For each film, student objectives are listed as well as suggestions for discussion.

Topics Included:
How Man Adapts to his Physical Environment
How Man Discovers His Past
Despite Man's Differences.....
Man as Hunter and Food Gatherer
The Agricultural Revolution: Man as Food Producer
Man and the Rise of Civilization
European Expansion: Its Influence on Man
Man and the Industrial Revolution
Man and the "Second" Industrial Revolution

SOURCE REFERENCE

87. Dr. William E. Drake
Professor and Chairman,
Agricultural and Occupational Education
Department of Education
Stone Hall
Ithaca, New York 14850

88. Mr. Z. J. Hamlett
Automotive Staff
Daytona Beach Community College
P. O. Box 1111
Daytona Beach, Florida 32015

89. Mr. Z. J. Hamlett
Automotive Staff
Daytona Beach Community College
P. O. Box 1111
Daytona Beach, Florida 32015

VOCATIONAL-TECHNICAL EDUCATION

87. Performance Goals for Occupational Education in Agriculture (JH-A) - State Education Department, Albany, New York

Description: Several hundred instructional modules, each containing specific objectives, content, teaching method, student application activities, evaluative procedures and resource materials.

Topics Included:
- Agricultural Production
- Agricultural Supplies/ Services
- Agricultural Mechanics
- Agricultural Resources
- Forests
- Agriculture, Other
- Ornamental Horticulture

Each topic encompasses a number of modules on specific topics.

88. Automotive Engines and Related Systems: Behavioral Objectives (JH-A) - Daytona Beach Community College, Daytona Beach, Florida

Description: A course outline which contains goals, general objectives, specific objectives, and evaluation procedures for both affective and performance objectives.

Topics Included:
- The Engine
- Lubrication System
- Cooling System
- Fuel System
- Electrical System
- Cranking Motors
- Charging System
- Ignition System

89. Power Train and Chassis: Behavioral Objectives (JH-A) - Daytona Beach Community College, Daytona Beach, Florida

Description: A course outline which contains goals, general objectives, specific objectives, and evaluation procedures for both affective and performance objectives.

Topics Included:
- Clutch Assembly
- Three-Speed Transmission
- Propeller, Shaft, Universal Joints & Rear Suspension
- Rear Axle Assembly
- Brake System
- Front Suspension & Steering
- Wheel Alignment & Adjustment Procedures

SOURCE REFERENCE

90. Dr. Robert E. Collard
Consultant, Industrial Education
Division of Vocational, Technical
and Adult Education
State Department of Education
Tallahassee, Florida 32304

91. Dr. Robert E. Collard
Consultant, Industrial Education
Division of Vocational, Technical
and Adult Education
State Department of Education
Tallahassee, Florida 32304

92. Dr. Carl W. Proehl, Director
State Department of Education
Division of Vocational, Technical
and Adult Education
State Department of Education
Tallahassee, Florida 32304

90. Report on Instructional Analysis Study of the Automotive Mechanic Occupation (SH-A) - State Department of Education, Tallahassee, Florida

Description: A course outline for the preparation of auto mechanics at the job entry level. Indicates knowledges and competencies to be achieved within each topic.

Topics Included:
- Engine
- Electrical System
- Fuel Systems
- Power Train
- Cooling System
- Steering System
- Braking System
- Suspension System
- Heating & Air Conditioning

91. Instructional Analysis of the Cosmetology Occupation (SH-A) - State Department of Education, Tallahassee, Florida

Description: A course outline for the preparation of cosmetologists at the job entry level. Indicates competencies to be achieved within each topic.

Topics Included:
- Permanent Waving
- Hair Cutting & Shaping
- Scalp Treatment
- Hair Coloring, Tinting & Bleaching
- Shampooing
- Finger Wave & Hair Style
- Facials, Massage, Make-up & Light Therapy
- Manicuring & Pedicuring
- Hair Straightening
- Wigs & Hair Pieces
- Charm & Poise
- Shop Management

92. Employability Skills Guide for Work Experience Programs (JH-A) - Division of Vocational, Technical & Adult Education - Florida Department of Education, Tallahassee, Florida

Description: A guide which classifies objectives in terms of major goals. Includes learning experiences, resources, and methods of evaluation, for each objective.

Topics Included:
- Attitudes about Work, School & Society
- Personal Appearance & Hygiene
- Connection Between World of Work & Study
- Personality Characteristics
- Personal Economics & the Economic System
- Recognition Through Successful Experiences
- Achievement in the School's Educational Program

SOURCE REFERENCE

93. Ms. Ruth Vaes, Editorial Manager
Published Products, Building 235-2N
3M Company
3M Center
St. Paul, Minnesota 55101

94. Mr. Joseph L. Boyd, Jr.
Educational Testing Service
Princeton, New Jersey 08540

95. Mrs. Marcia B. Garman
Research Analyst
San Mateo County Office of Education
Education Resources Center
590 Hamilton Street
Redwood City, California 94063

93. Units on Management (JH-A) - 3M Company, St. Paul, Minnesota

*Description: A series of units on management, e.g., "Evaluating Advertising", each of which contains objectives, suggestions for the teacher, and a bibliography. Each topic in a unit is keyed to media produced by 3M.

94. Handbook of Performance Testing (SH-A) - Educational Testing Service, Princeton, New Jersey

Description: An extensive document offering a rationale for the use of performance tests, ways to plan for their use, and guidelines for the preparation and grading of such tests. It also contains an appendix of performance tests in the thirteen areas listed below.

Topics Included:
Bench Woodwork
Operation of IBM 083 Sorter
Fabrication of a Rigid Tube Assembly
Fabrics Repair
Joining Ferrous & Nonferrous Metals
Metal Body Repair
Dental Hygiene
Offset Press Operation
Machinist
Automatic Clothes Washer Simulator
Transistor Receiver
Cosmetology
Plymouth Troubleshooting Contest

95. Vocational-Technical Education Programs (SH) - San Mateo County Office of Education, Redwood City, California

Description: Terminal performance objectives for several programs in the area of vocational-technical education. For each objective in each program there are explicit statements of the terminal performance, the expected student performance, the conditions under which the student will perform, and the extent to which the student will perform. All materials are available in microfiche format only.

SOURCE REFERENCE

96. Mr. Donald Gilman
Alaska Skill Center
P. O. Box 615
Seward, Alaska 99664

Topics Included:
- Terminal Performance Objectives for a Phased Typing Program in Business Education ($.75)
- Calculating Machines I, Terminal Performance Objectives ($.25)
- Occupational Competence Unit Series "Teachers' Resource Guides for Occupational Competence" ($1.25)
- Calculating Machines 2 ($.25)
- Terminal Performance Objectives for Selected Programs in: Business Education, Distributive Education, Work Experience Education, Career Guidance ($.50)
- Terminal Performance Objectives for a Phased Shorthand Program in Business Education ($.75)

96. Vocational-Technical Training Programs (SH-A) - Alaska Skill Center, Seward, Alaska

Description: A compilation of objectives for trainees enrolled in various job-entry level training programs. A Trainee Progress Chart is provided for each skill area which lists tasks and subtasks (objectives) necessary for successful completion of the program. Evaluation is based upon instructor ratings of the student's capability.

Topics Included:

Clerical Cluster
- Office Safety
- Delivery Services
- Typing Principles
- Business English & Communication
- Business Mathematics
- Record Keeping
- Accounting
- Shorthand
- Office Procedures & Machines

Cooking Cluster
- Cook's Helper
- Bull Cook
- Short Order Cook
- Mess Cook
- Cook (Hotel & Restaurant)
- Baker's Helper
- Pie Maker

Mechanical Cluster
- Mechanic Fundamentals
- Gasoline Engine Repairman
- Marine Diesel Mechanic Helper
- Automotive Mechanic Helper
- Heavy Equipment Mechanic Helper

Power Plant Generation Fundamentals

Maintenance Cluster
- Porter I
- Porter II
- Janitor
- Maintenance Man Helper
- Building Maintenance Man I
- Building Maintenance Man II

SOURCE REFERENCE

97. Mr. Donald F. Averill, Coordinator
Work Experience Education
Whittier Union High School District
12102 East Washington Boulevard
Whittier, California 90606

97. Work Experience Program: A Preliminary Workbook (SH-A) - California State Department of Education, Whittier, California

Description: A document which contains goals, selected program objectives, specific objectives, terminal objectives and evaluative criteria for students enrolled in California State programs of work experience education.

Topics Included: Exploratory Work Experience
General Work Experience
Vocational Work Experience

For each topic, objectives related to:
- Relevancy
- Self-development
- Self-evaluation
- Acculturation
- Human Relations

SOURCE REFERENCE

98. Lockheed Educational Systems
P. O. Box 504
Sunnyvale, California 94088

99. Dr. B. Elgit Blanton
Office of Reading and Language Studies
207 Pine Hall
School of Education
Indiana University
Bloomington, Indiana 47401

100. Dr. Raymond Bernabei
Bucks County Public Schools
Curriculum Resources Center
80 East Court Street
Doylestown, Pennsylvania 18901

101. Ms. Holly Smith
Assistant to the Director
National Clearinghouse on the
Teaching of English
1171 Kenyon Road
Urbana, Illinois 61801

SOURCES OF SOURCES

98. The American Government Information Unit: Curriculum Alternatives for Secondary Schools - Lockheed Educational Systems, Sunnyvale, California

Description: Reports on nine new programs in American government which offer new approaches. Each report describes program goals and objectives, content and materials, classroom strategy, student and teacher prerequisites, implementation requirements and costs, program development and evaluation, and project history.

99. Behavioral Objectives - Office of Reading and Language Studies, Indiana University

Description: An annotated bibliography containing sources of behavioral objectives, articles about projects using objectives, and books on the use of objectives in instruction.

100. Behavioral Objectives: An Annotated Resource File - Raymond Bernabei, Bucks County Public Schools, Doylestown, Pennsylvania ($2.00)

Description: An annotated resource file which contains research studies, conference papers, and other documents on behavioral objectives.

101. Bibliographies on Behavioral Objectives - National Clearinghouse on the Teaching of English, Urbana, Illinois

Description: Two documents containing lists of books, articles, and reports on the writing of objectives, the potential uses of objectives, and projects which have developed or are utilizing objectives in the area of English and language arts.
Documents:
An NCTE/ERIC Bibliography on Behavioral Objectives
A Current Bibliography on Accountability, Performance Contracts, Behavioral Objectives and Assessment of Student Performance in Language Arts

SOURCE REFERENCE

102. Ms. Grace Patterson
Office of the Superintendent
Buffalo Public Schools
Buffalo, New York 14202

103. Dr. Bruce Joyce
Teachers College
Columbia University
New York, New York

104. Mr. John F. Reynolds
Director, Performance Objectives Program
Amherst-Pelham Schools
Amherst, Massachusetts 01002

102. Blueprint for Progress - Buffalo Public Schools, Buffalo, New York

Description: Reports on federal and state funded educational programs in the city of Buffalo. For each program listed there is included a general description of the project, project objectives, project activities, pupils served by the project, facilities to be used, the personnel participating, the evaluation design, and the total proposed budget.

103. Materials for Modules: A Classification of Competency-Oriented Tools for Teacher Education - Teachers College, Columbia University, New York, New York

Description: A book containing a collection, classification and analysis of sources of competency-oriented teacher programs and materials.

Topics Included:
Basic Interactive Teaching Skills
Instructional Planning & Design Skills
Teaching Strategies
Analysis of Classroom Activity
Instructional Decision-Making
Student Diagnosis & Evaluation
Foundations of Education
Content Areas
Media & Instructional Technology
Educational Staffing & Instructional Organization
Staff Development

104. Sources of Information on Performance Objectives, POP Mini-paper #4 - Amherst-Pelham Schools, Amherst, Massachusetts

Description: An annotated bibliography containing sources of behavioral objectives, articles about projects using objectives, and books on the use of objectives in instruction.

SOURCE REFERENCE

105. Ms. Fay F. Davis
Product Information
Southwest Cooperative Educational Laboratory
117 Richmond Drive, N. E.
Albuquerque, New Mexico 87106

106. Mr. James B. Andrews
Music Supervisor
Department of Education
Charleston, West Virginia 25305

107. Dr. E. Wayne Roberson
EPIC Diversified Systems, Corp.
P. O. Box 13052
Tucson, Arizona 85711

UTILIZATION OF OBJECTIVES

105. Behavioral Objectives Package - Southwestern Cooperative Educational Laboratory, Albuquerque, New Mexico

*Description: An instructional package containing slide-tape presentations, and a workbook which consists of six lessons and the related pre and post tests. Also included in the workbook are an outline of goals and objectives, the instructional program, the three domains (cognitive, affective, and psychomotor), entering behaviors, components of a behavioral objective, and how to write a behavioral objective.

106. The CEP "Primer" for Writing Objectives (A) - West Virginia Department of Education, Charleston, West Virginia

Description: Pamphlet produced for use in workshops designed to teach instructional personnel the rationale for the production and utilization of objectives.

Topics Included:
- Glossary
- Rudiments of Objective Writing
- Curriculum Objective
- Ideas for Implementation
- Levels of Objectives
- Policy Objective
- Program Objective
- Instructional Objective

107. Evaluative Skills Materials for Accountability - Educational Innovators Press, Tucson, Arizona

Description: A series of publications designed to assist educators in developing skills for evaluating educational programs by utilizing goals and objectives in specifying learning outcomes.

Topics Included:
- A Scheme for Evaluation & Organizational Structure Variables
- Developing & Writing Behavioral Objectives
- Evaluation Design
- Coding & Writing Test Items
- Case Studies
- Proposal Guidelines
- Performance & Process Objectives
- Needs Assessment

SOURCE REFERENCE

108. Mr. John F. Reynolds
Director, Performance Objectives Program
Amherst-Pelham Schools
Amherst, Massachusetts 01002

109. Ms. Fay F. Davis
Product Information
Southwestern Cooperative Educational Laboratory
117 Richmond Drive, N. E.
Albuquerque, New Mexico 87106

110. Dr. J. Marvin Cook
Associate Professor of Education
University of Maryland
Baltimore, Maryland 21228

Basic Teaching Skills Development Packet
A Format for Monitoring the Teaching-Learning Process
Developing Observation Systems
Hierarchy for Goals & Objectives
Educational Program Audit, Credibility of Education
A Sourcebook for Implementing Accountability
Viewpoints on Accountability

108. Performance Objective Program (POP) - Amherst - Pelham Schools, Amherst, Massachusetts

Description: POP is a system of managing instructional programs for effective individualization of learning. The project has produced an ILP entitled "How to Prepare Behavioral Objectives" which includes objectives, pre-assessment, instruction, and evaluation. The project has also produced a number of papers concerning the production and evaluation of performance objectives.

109. Systems Approach to Lesson Planning - Southwestern Cooperative Educational Laboratory, Albuquerque, New Mexico

*Description: A package containing a workbook with six behaviorally defined lessons keyed to be used with an accompanying slide/tape presentation. Included is a pre-test to determine teacher entry level. Other specific activities in the package include: utilization of terminology, and definition of parts, of a teaching systems matrix, identification of probable sources of teaching problems, and practice in the use of the matrix as a teaching tool.

110. Teaching with Behavioral Objectives (Books 1-5) - University of Maryland, Baltimore, Maryland

Description: Manuals for in-service workshops, seminars, college and university courses, and conferences.
The books are entitled:
Constructing Behavioral Objectives
Constructing Learning Hierarchies
Examples of Learning Hierarchies in Language Arts/Reading, Social Studies, Science, Mathematics & Literature
Evaluation with Behavioral Objectives
Classroom Management with Behavioral Objectives

SOURCE REFERENCE

111. Dr. George E. Parsons
704 Teachers College
School of Education
University of Cincinnati
Cincinnati, Ohio

112. Dr. Robert A. Roth, Coordinator
Performance Evaluation Project
Rutgers University
222 Van Dyck Hall
New Brunswick, New Jersey 08903

113. Dr. Stanley Delidow
College of Human Resources and Education
West Virginia University
Morgantown, West Virginia 26506

TEACHER EDUCATION

Counseling

111. Course Descriptions (Counseling) - University of Cincinnati, Cincinnati, Ohio

Description: Two courses in the area of counseling are described. Each includes an introduction, course outline, evaluation procedures, and student objectives.
Course titles are:
- Group Counseling
- Counseling & Urban Problems

Curriculum Areas

112. Performance Evaluation Project: Task Force Reports - New Jersey State Department of Education, Trenton, New Jersey

Description: A collection of cognitive and affective performance goal statements for teachers.

Topics Included:
- Art
- Math
- Vocational Teaching
- Business & Distributive Education
- Elementary
- Foreign Language
- Exceptional Children
- Health Education
- Home Economics
- Industrial Arts
- Music
- Nursery School Education
- Science
- Physical Education
- Social Studies

Educational Psychology

113. Educational Psychology 105 - Individualized Teacher Training Modules - West Virginia University, Morgantown, Virginia

Description: Nine individualized units on topics in Educational Psychology. Each module contains instructions to participants, pretests, objectives, a study guide, and posttests.

Topics Included:
- Teaching As Changing Behavior
- How We Learn
- Generalization, Discrimination, & Concept Formation
- Behavioral Objectives
- Designing Instructional Sequences
- Motivation & Discipline
- Punishment
- Individualizing Mass Education
- Measurement

SOURCE REFERENCE

114. Dr. John E. Rhetts
Psychological Foundations of Education
330 Burton Hall
University of Minnesota
Minneapolis, Minnesota

115. Dr. N. M. McMillan, Director
College of Education
Shaw University
Raleigh, North Carolina

116. Mrs. Carolyn Anderson
Center for the Teaching Professions
2000 Sheridan Road
Northwestern University
Evanston, Illinois 60201

114. Substative Domains for Educational Psychological Performance by Undergraduate Teachers-in-Training - University of Minnesota, Minneapolis, Minnesota

Description: A compilation of objectives, for an undergraduate teacher training program. Nine training modules have been developed based on the objectives.

Topics Included:
Communications Skills & Group Process
Value Clarification
Self-Management & Goal Setting
Risk-Taking & Scientific Method
Evaluation, Measurement, & Testing
Precision Teaching
Inquiry & Other Teaching Strategies
Organizational Development & Institutional Change
Human Relations, Especially Racism

Elementary Education

115. A Model for a Performance-Based Elementary Teacher Education Program at Shaw University - Shaw University, Raleigh, North Carolina

Description: A final report on a project to improve teacher education at Shaw University. A committee reviewed the programs of nine other universities and from the data designed a model for the program at Shaw. Included in the model are a rationale for the use of objectives, a procedure for writing objectives and illustrative objectives in six areas.

Topics Included:
Elementary Science
Language Arts
Health Education
Physical Education
Mathematics
Social Studies

Evaluation & Research

116. Self-Instructional Units on Evaluation & Research - Northwestern University, Evanston, Illinois

Description: Eleven self-instructional units, on evaluation and research, each containing objectives, an overview, instruction, a mastery test, and test feedback.

SOURCE REFERENCE

117. Mr. Gilbert F. Shearron
427 Aderhold Hall
University of Georgia
Athens, Georgia 30601

Topics Included:
Overview
Experiments & Testing Statistical Hypotheses
Avoiding Common Errors in Evaluation & Research
Questionnaire Construction
Selecting & Using Standardized Tests
Technical Issues in Testing
Data Collection by Interview
Data Presentation Techniques
A Layman's Introduction to Computer Applications
Hints for Project Evaluators
Specifying Behavioral Objectives

Generic Skills

117. Competency-Based Teacher Education Modules - The University of Georgia, Athens, Georgia ($25.00/complete set)

Description: A series of competency-based teacher education modules for major curriculum areas. Modules contain objectives, activities, and evaluation procedures. Bulletins, summaries and research and development reports are also available.

Topics Included:

Reading
Word Recognition Skills
Word Recognition: Phonetics
Comprehension Skills
Teaching A Directed Reading Lesson
Classroom Management for Reading Instruction

Mathematics
Teacher Concepts of Fractional Numbers
Teaching Multiplication & Division of Fractional Numbers
Teaching Additions & Subtraction of Fractional Numbers
Using Drill Activities

Language Arts
Listening
Spelling
Creative Dramatics

Child Development
...With Implications for Working With Disadvantaged Children & Their Families

Physical Education

Science Education
Elementary Science Methods
Utilization of Science Equipment

Classroom Management
Planning to Avoid Individual & Classroom Management Problems
Coping With Individual & Classroom Management Problems

SOURCE REFERENCE

118. Dr. L. W. Dean
318 Erickson Hall
Michigan State University
East Lansing, Michigan

119. Mr. Lester Kitching
Panhandle Area Educational Cooperative
P. O. Drawer 190
Chipley, Florida 32428

118. Education 200 Handbook: Individual and the School, Michigan State University, East Lansing, Michigan

Description: Four units designed to foster the development of skills and competencies in diagnosing and responding to student concerns. Each unit includes an introductory description, student teacher objectives, presentation of concepts, practice exercises, and carrel booklets to be used in conjunction with tapes and slides.

Topics Included:
Assessment
Strategies
Objectives
Evaluation

119. Florida Teacher Education Modules - Panhandle Area Educational Cooperative, Chipley, Florida

Description: Clusters of individualized instructional modules for preservice and inservice teacher education. Each module contains general objectives, specific objectives, instructions to participants, instructions for administering the module, pre-assessment, an overview, materials and equipment, activities for each objective, and evaluation.

Topics Included:

Teacher Aide Training
Defining the Role of the Teacher Aide
Recognizing How Children Develop
Promoting Appropriate Language Patterns
Utilizing Phonics & Word Attack Skills
Demonstrating Legible Handwriting
Developing Map & Globe Skills
Using the Library
Constructing a Resource File
Preparing the Physical Environment for Learning
Completing State & County Forms

Planning Skills for Teachers
Using Behavioral Objectives
Designing a Learning Activity
Selecting an Instructional Mode
Planning Creative Activities for Independent Learning
Selecting Commercial Materials
Compiling & Using Instructional Games
Developing an Instructional Package
Organizing Learning Stations for the Language Arts

Presentation Skills for Teachers
Using Examples & Illustrations
Using Lecture Techniques to Present Information
Using Planned Repetition
Establishing Appropriate Frames of Reference
Increasing Participation
Feedback
Nonverbal Behavior
Stimulus Variations

Classroom Procedures
Mini-Pak for Making Assignments
Monitoring In-Class Assignments
Achieving Classroom Transitions
Achieving Closure
Reinforcement
Classroom Management
Recognizing & Obtaining Attending Behavior
Set Induction

Questioning Skills

Question Upgrading Improvement Package
Using High Order Questions
Inducing Student-Initiated Questions
Inquiry Techniques: Using Probing Questions
Pre-Cueing

Assessment
Evaluating Learning & Instruction
Diagnosing Arithmetic Skills
Using Informal Diagnostic Tests of Reading Skills

Special Skills
Developing an Art Activities File
Teaching Songs & Rhythms
Fostering Creativity
Utilizing the Comprehensive Readiness Program
Methods of Introducing & Summarizing a Unit
Developing Listening Skills
Utilizing Field Trips for Learning

Assessing Educational Personnel
Introduction to Diagnosis Prescription System for Staff Development
Diagnosis Prescription System for Staff Development
Building a Diagnosis Prescription System for Staff Development

SOURCE REFERENCE

120. Dr. Robert L. Arends
Program Development Specialist
The Center for the Study of Teaching
117 Bacon Hall
1300 Elmwood Avenue
Buffalo, New York 14222

120. Objectives for Teacher Education - State University College at Buffalo, Buffalo, New York

Description: A collection of objectives and post-assessment criteria abstracted from teacher education module clusters developed and implemented at State University College at Buffalo. Also available is a cluster of modules on "The Concept of a Competency-Based Teacher Education Program".

Topics Included:
Content & Concepts of Elementary School Mathematics
Strategies/Approaches in Teaching Elementay Mathematics
Management Essentials in Mathematics
Terminology & Laws of Mathematics
Diagnosing in Mathematics
Approach to Teaching Mathematics
Social Studies Content
Evaluation Techniques (Mathematics & Social Studies)
Behavioral Objectives in Math/Science
New Curriculum Projects in Math/Science
Methods of Delivery (Science)
Science/Math Workshops
Diagnosis & Evaluation
Supervison
Systematic Observation & Analysis of Teaching Behavior
Personal Communications
Learning Models
Concept Formation & Maintenance
Prejudice
Education & Race
Poverty & Education
Heredity & Environment
Teacher Expectations
Sociology of the Inner City
Sociology of the Urban Community
The School System as an Institution
Race, Ethnicity, Poverty & Urban School
Statistics
Reference Format & Style
Research Instruments
Types of Studies
Oral Language
Teaching Language Arts Phases I & II
Understanding the Reading Process as Precursor to Analysis of Reading Ability
Identification of the Symptoms & Causality of Reading Difficulty & Failure
Diagnosing Reading Ability
Language & Culture Phonology
Aspectual Linguistic Analysis
Differentiated Staffing

SOURCE REFERENCE

121. Dr. William Engel
Teacher Education Committee
College of Education
University of South Florida
Tampa, Florida 33620

122. Dr. Dwight W. Allen
Dean, College of Education
University of Massachusetts
Amherst, Massachusetts

or

Dr. Frank Sobol
College of Education
Florida International University
Tamiami Trail
Miami, Florida

121. Performance-Based Teacher Education Modules - University of South Florida, Tampa, Florida

Description: A series of Individualized Teacher Education Modules. The modules contain an introduction, general directions, prerequisities, preassessment, primary objectives, secondary objectives, activities, evaluation procedures, resources, and references.

Topics Included:

- Approaches to Teaching
- Planning for Teaching
- Teaching
- Curriculum Projects
- Primary Processes
- The Nature of Science
- Educational Psychology
- The Teaching of Pre-Secondary School Geometry
- Designing an Experiment
- Piaget in Science
- Periodicals for Teachers of Science in the Elementary School
- Ecology
- Science for the Child
- Responsibilities of Classroom Teachers in Relation to Total School Health Program

122. A Task Analysis of Educational Positions - University of Massachusetts, Amherst, Massachusetts

Description: A listing of over 9,000 objectives developed for implementation of differentiated staffing. Objectives are coded to indicate the type of personnel and the situation for which they are intended.

Topics Included:

Personnel

- Master Teacher
- Senior Teacher
- Staff Teacher
- Associate Teacher
- Lecturer
- Intern
- Extern
- Student Teacher
- Resource Teacher
- Parent
- Vice Principal
- Instructor
- Advisor
- Research Teacher
- Team Leader
- Team Teacher
- Teaching Assistant
- Instructional Aide
- Department Head
- Administrator
- Curriculum Developer
- Counselor
- Student
- Superintendent
- School Board
- Media Specialist
- Graphic Specialist
- Source Aide
- Librarian
- Technician
- Secretary
- Clerical Aide
- Community Resource Volunteer
- Principal
- Superivsor
- Consultant

SOURCE REFERENCE

123. Dr. Elizabeth Taylor
Assistant Professor of Education
School of Education
Teacher Corps
University of Louisville
Louisville, Kentucky 40208

124. Dr. Carey Southall
215 Hill Hall
University of Missouri
Columbia, Missouri 65201

Situations

Learning Management	Teaching Teachers
Large Group Instruction	Department & Committee Meetings
Small Group Instruction	School Governance
Lecture	Research
Tutoring	Curricular Change or Innovation
Independent Study	Continued Education
Planning & Preparation	Community Relations
Student Diagnosis	Professional Service
Student Remediation	Material Resources
Counseling	Review
Extra-Curricular & Clubs	Student Presentation
Parent Conferences	
Presentation	

Interning

123. Intern Evaluation - University of Louisville, Louisville, Kentucky

Description: Objectives, criteria and methods for evalution of intern performance prior to, and during, student teaching.

124. Student Teaching: General Guidelines; Tri-Level Student Teacher Competencies - University of Missouri, Columbia, Missouri

Description: Objectives for cooperating teachers and for student teachers. Student teacher objectives are classified by levels, level three denoting that time when the student teacher takes complete charge of a teaching situation.

Topics Included:

Cooperating Teachers
Student Teacher Assignment
Relationship to the College Supervisor
Orientation
Introduction of the Student
Observation, Participation & Teaching
Delegation of Instructional Responsibilities
Noninstructional Arrangements
Evalution

Student Teachers
Level I - Orientation & Observation
Level II - Assumption of Routine Duties
Level III - Assumption of Complete Responsibility for Teaching Class

SOURCE REFERENCE

125. Dr. Morris A. Shirts, Dean
School of Education
Southern Utah State College
Cedar City, Utah 84720

126. Mr. William H. Kendrick
Vice President Educational Services
Croft Educational Services, Inc.
100 Garfield Avenue
New London, Connecticut 06320

127. Dr. Carson W. Bryan
Wheeling College
Wheeling, West, Virginia 26003

Media

125. Behavioral Objectives for Education 316 (Media Preparation) - Southern Utah State College, Cedar City, Utah

Description: A listing of objectives for the preparation of various types of media for use in the elementary or secondary school classroom.

Topics Included:
- Overhead Transparencies
- Lamination
- Drawing
- Matting
- Duplication
- Commercial Production

Reading

126. Inservice Programs for Teachers (Reading) - Croft Educational Services, Inc., New London, Connecticut ($250.00-300.00/15 teachers)

Description: Inservice Reading Program: A Systems Approach to Word-Attack Skills - A program designed to train teachers in building student skills using a phonics or linquistic based system.

Reading Comprehension Skills: A Systems Approach - Materials designed to help a school staff organize inservice workshops to improve the methods of teaching comprehension skills. Closely parallels the Inservice Reading Program.

Specific objectives in reading form the basis for workshop sessions in both programs.

Secondary Education

127. Secondary Teacher Preparation at Wheeling College: A Model Based Upon Person, Performance and Partnership - Wheeling College, Wheeling, West Virginia

Description: A description of the philosophy of the program, student-teacher goals, student-teacher activities and evaluation techniques.

SOURCE REFERENCE

128. Dr. James L. Hoerner, Supervisor
Vocational Teacher Education Service
Division of Vocational, Technical
and Adult Education
Dade County Public Schools
1410 Northeast Second Avenue
Miami, Florida 33132

Vocational Education

128. Vocational Teacher Education - Dade County Public Schools, Miami, Florida

Description: A listing of 25 cognitive and affective objectives for a performance-based vocational teacher education program.